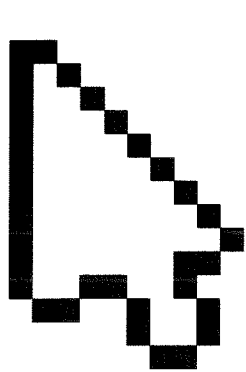


QL Today

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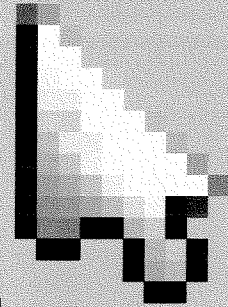
ISSN 1432-5454

The Magazine about QL, QDOS,
Sinclair Computers, SMSQ...



SPRITES

Wolfgang Lenerz
explains all about
the new sprites for
high colour SMSQ/E



Enter Password
Please enter or edit filename

QMENU

Jochen Merz reveals
undocumented features of the
MENU Extension V7.50 onwards

QDT Progress

US
QL
SHOW

QL Shows
coming up...

and much more

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Article and Advertising deadlines are as follows:

- Issue 1: 30 April
- Issue 2: 30 June
- Issue 3: 30 August
- Issue 4: 30 October
- Issue 5: 30 December
- Issue 6: 28 February

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Almost before I'd even noticed, we are at the end of our eighth year of publication! I'm proud to have been at the helm of QL Today for all these years. I enjoy working on QL Today and hope that you, our loyal readership, enjoy reading it to. There's something about the QL (or should that be the operating system?) that just keep it going year after year!

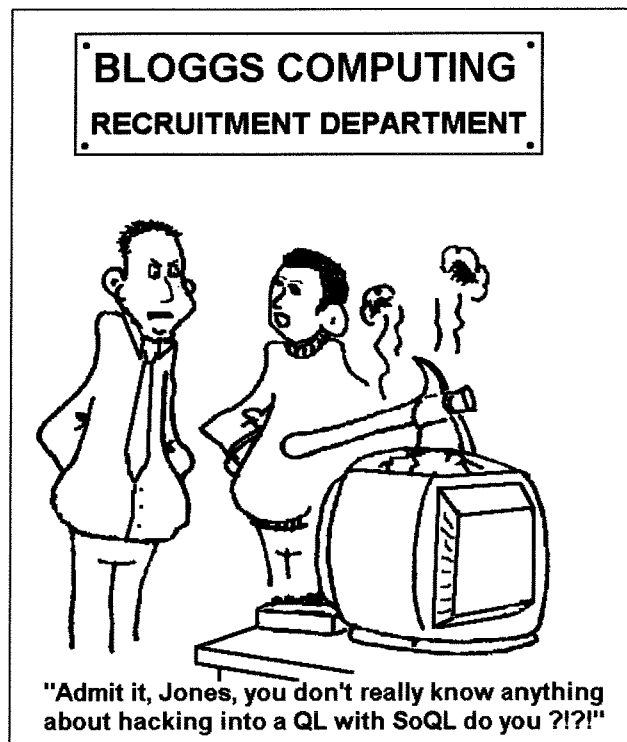
There has been something of a resurgence of interest in the Turbo compiler recently, as it is now the only maintained QL BASIC compiler and has been kept up to date by the sterling work of George Gwilt. I thought it quite appropriate that we include an article about installing and starting to use Turbo in this issue, for those who may perhaps have forgotten how to use it or those who've simply never used it before. Another reason to use Turbo of course is the TurboPTR system from George Gwilt, which lets you write pointer environment programs from BASIC without having to take the plunge and learn to use the rather more difficult to master QPTR toolkit. I recently got my hands on a useful-looking program which converts Easyptr files to TurboPTR - time to make the effort to learn to use TurboPTR I think!

It's also encouraging to see that there is a trickle of software appearing which makes use of GD2 and the new window manager layouts and colour schemes. While reviewing the new sprite viewing program from Per Witte, I noticed just how different (and better!) software looks on the QL when using the new colour facilities. Obviously, being a black and white publication, we can't really do justice to this in these pages, but take my word for it, it makes a huge difference! I look forward to seeing more software making use of GD2 and WMAN2.

It has been really useful that authors have taken the time and trouble to document and publish information on the GD2 and new window manager facilities. Tony Tebby started the ball rolling with his GD2 documents and people like Wolfgang Lenerz, Marcel

Kilgus, Wolfgang Uhlig and George Gwilt have been particularly helpful in sending us articles which help to provide the information.

The Quanta AGM in Manchester this year will see major changes to the Quanta committee. The long serving Chairman and Secretary (Robin Barker and Roy Brereton) will step down this year, although Roy will remain a committee member. Geoff Wicks, a QL trader (Just Words!) is standing for election to the committee and he has been encouraging a discussion on the QL mailing list about whether or not Quanta should think of applying funds to development of certain aspects of the QL, e.g. I suggested that the Sdump screen dump software should be enhanced to cater for the new colours and so on, to help encourage people to write graphical software for the QL by ensuring that printer screen dumps (probably the hardest and most time consuming part of writing software on the QL) are available even in a fairly basic format. Do you have any input to the debate that Geoff is encouraging? What development would you like to see sponsored in this way, bearing in mind that there is not a lot of money available? Write and let us know what you think.



Cartoon

NEWS

News from Per Witte

Msprv/Sprv

In my quest for suitable sprites to use in our glorious new hi-colour environment, the lack of a suitable sprite viewer became acute. So I cobbled together a couple one afternoon for my personal use. However, these things take on a life of their own, and I ended up producing something a little more elaborate than initially intended. The results of my efforts can be found on Tim Swenson's website at

<http://www.geocities.com/SiliconValley/Pines/5865/>

(together with Tim's growing collection of PD QL sprites).

As I don't intend to support or develop these programs much further, the complete source code is available, so you can change what you don't like, develop them further if you're that way inclined, or just take a peek at how they work. The latter may be particularly interesting to those who have been following the articles of the two Wolfgangs (Lernerz and Uhlig) and George Gwilt in recent QLTs, as my approach demonstrates another way of writing Pointer Environment (PE) programs, using a combination of EasyPtr, assembler plus some freely available tools from other sources.

With Sprv you can view a single sprite and its metrics. It bravely tries to follow complex sprites, so you can view its various components one at a time. Sprv is first of all designed to be attached to FileInfo2 (FI2) to enable viewing by clicking on the filename in suitably endowed file managers, such as Qpac2 Files.

Msprv allows you to view all the sprites found in a single directory on one page. Information on individual sprites is enabled via Sprv.

To test these programs, and to see how easy it would be to change them, unzip the package to ram1_ and try it out from there. System requirements are detailed in the readme, but a QPC2 system (or Qx0 – not tested) sporting SMSQ/E v3.03 is a minimum. With suitable adjustments or modifications, other systems, including an enhanced Qdos/Minerva environment with Wman2, would also be suitable.

Qwirc 0.62 - The QL Winchester Information and Rename Console

Qwirc has now been upgraded to hi-colour display. Also most remaining known bugs have been mercilessly hunted down and eliminated.

What Qwirc does:

Qwirc is currently only compatible with up-to-date QPC systems.

Qwirc lists all WIN devices attached to your QL system by name, giving a summary of size and free space. More detailed information on each device can be provided by clicking its name. You can then also review the read/write status, whether the device is removable, and the name of the file under the host OS that provides the device. A further screen calculates and displays the usage statistics for the drive.

So much for the information side. Qwirc also allows you to give your hard disk a sensible (or otherwise) name, to set the read/write and removable statuses of the device (as seen from SMSQ/E), and mount and unmount devices easily. (Geeks are really going to hate Qwirc!).

New since previous release:

- Feedback button in About to lower the feedback barrier.
- Popup help on some icons (HIT and hold)
- Bug fixes (see History.txt)

Qwirc was intended to eventually be compatible with SMSQ/E on all hard disk systems. However, due to the public's lack of interest this has been shelved for now. If three or more people ask me I shall reconsider

Qwirc is available from Marcel Kilgus'es site at <http://www.kilgus.net/>

As usual, any feedback on any of the above – positive or otherwise – is welcome. If you need any help, please contact me at

pjwitte@tiscali.co.uk

Just Words! will be at the Manchester QUANTA AGM and show, but trading actively only on the Saturday. A new product, developed in conjunction with Al Boehm, will be released at Manchester and Orlando. Details of the new product remain strictly under wraps. All Just Words! will say is that it is "A bit of fun for a fiver, but with serious intent", adding mysteriously, "You will have to wait for Manchester and Orlando to discover why the widow is dating a celibate chimpanzee".

Text87 - even more News

Jochen Merz

text87, one of the few programs which does not run properly in high-colour mode can be modified to work in 16-bit colours on the QXL and QPC (with SMSQ/E Version 3) - and now in 8-bit colour on Aurora and 16-bit colour on Q40 and Q60. Marcel Kilgus has added a new driver for this program which will be added to the program and enable you to run it nicely in high-colour mode. You have two options: it can look the same way as before (white/red/green on black) or - much better looking - colours on a nice grey. It is up to you, you can try both settings.

text87plus4 PATCH is available now from J-M-S for only EUR 12,- including postage & packaging! Easy-to-use, it will provide you with a text87 which works without having to re-start QPC in a different colour mode or use a DISP_COLOUR 0 which will screw up the rest of the display. Now, with text87plus4 PATCH it will work without the need to change display resolution - and we think it looks even better in grey!

Please note: the PATCH program requires you to own the latest version of text87plus4 English (E4), file size 116850 bytes or the latest version of text87plus4 German (g4), file size 117354.

You do not need to configure or modify the result of using text87plus4 PATCH-just execute this one instead of your original program!

Please note: the Patch is sold with the permission of text87 author, Fred Toussi.

You can find a secure contact form on the J-M-S homepage (smsq.j-m-s.com), where you can submit credit card data etc. without having to send it via email.

SUCCESS: new version 1.19

Bob Spelten writes:

I have made a number of improvements on Success 1.15, the DBAS Database Interface, which by now has reached 1.19. 1.16 to 1.18 were short lived 'in between' versions. This will be the last version in 4-colour mode. In fact we were so busy working on the full-colour version that the announcement has slipped, although it is in the JMS catalogue since November.

- The most important change is in the SEARCH options. You can now connect the search on 4 fields with AND, OR, XOR and NOT, in any field order you like or even connect 4 searches on the same field.

- COLUMNS can be set to improve the layout of your data because every column can be given its own width, you can also hide columns from view. These settings can be saved and will load automatically with each database. Also the row height can be set from 10 to 20 pixels.
- The single VIEW window now always shows the whole record. Long fields will be split over several lines. Click one of these lines and you can edit the field. You enter VIEW mode by selecting (or HITting) one or more records and then DOing on one of them. You can step up or down all selected records.
- In the EDIT window you can now delete the line or the whole field before or after the cursor at once.
- Because SEARCH selections will undo any ordering, you can now save a SORT on up to 4 fields, and quickly redo the last sorting.
- Copy to SCRAP has 3 options to separate the fields: space, linefeed or 'l'(vertical line).
- EXPORT will also give 3 options to mark the field types for import by Archive, DBAS/Success or DATAdesign.
- In the PRINT menu a filename can be given as the destination.
- When you start a string field with '@\' (at+backslash) and DO on that field, the rest of the field can be seen as a filename. If you have the excellent FileInfo2 from Thierry Godefroy loaded, this is called to execute the file. You must have told FI2 what to do with the file of course. When FI2 is not loaded this option is not available, then a DO enters edit mode as usual.

Many bugfixes have been done and more error trappings have been added. The HELP files have been updated to explain the new options in more detail. Jochen Merz Software is the source for this new version in English and German. There is also an English demo version on the web site of Wolfgang Uhlig and this will also run under QDOS(JS), although I have not been able to test this with higher resolutions. So give it a try and let me or Wolfgang know what you think.

As mentioned before, we are busy building the colour options into Success. The first trials look very promising but there are still some problems to solve in the EasyPTR department. A test version will hopefully be on Wolfgang's QL site soon.

Bob Spelten jr, b.spelten@hccnet.nl

Wolfgang Uhlig, w.uhlig@tiscali.nl www.uhlich.nl/ql

New: "QCP"

by **Wolfgang Uhlig**

The QIColourPicker is ready. It has two functions:

– Just choose a colour and send it to the stuffer buffer as a system colour or a true colour string. Take one out of 16 predefined colours or mix your own colour.

– The config file for QCP may be the same as the one for QCoCo. So you can take your time and redefine the 16 colours to make a consistent colour scheme with QCP and use the colours in QCoCo very quickly.

QCP uses a machine routine of Marcel Kilgus which makes it very quick.

It is freeware and you can get it from Roy Wood, Jochen Merz or from my website at:

www.uhlich.nl/ql

Thor Manual

Tony Firshman writes:

A zipped pdf of the original QL board based Thor is: 'technical info' I should have said..... URL:

<http://www.firshman.co.uk/data/thor-ql.zip>

It is about 10mb.

Dilwyn Jones News

Thor Tech Manual

Thanks to Tony Firshman, I have now added the Thor manual PDF file to the QL Documentation CD, which is now at version 2.7.

EPSON ESC/P2 Control Codes Manual

I have condensed the extensive Epson ESC/P2 programming guide files into a single Xchange Quill DOC file and plain text file. It's basically a control code set list and notes from Part 1 of the Epson PDF files. The full Epson PDF files are available on the QL Documentation CD, but for those with more urgent needs the DOC and TXT files are available from my TopCities website:

<http://dilwynjones.topcities.com/qldocs/qldocs.html>

or follow links from my main website on

<http://homepages.tesco.net/dilwyn.jones/index.html>

SER8056 Printer Manual

On the same page, I've added a scanned copy of the Ser8056 thermal printer manual. Remember that little printer? It was given away free with some early QLs in certain high street stores. It used fax-style thermal paper rolls, and you still see the odd one for sale second hand at QL shows, usually minus its manual! This manual includes the control code set it supports. The printer was originally manufactured by Brother.

Disk Interface Manuals

I've just been sent a manual for a CST Qdisk QL disk interface (three versions in fact, they differ in how many Toolkit 2 style extensions the interfaces had). I'm putting these on my website, along with the Sandy SuperQBoard disk interface manual.

The QDISC manuals are text files (no diagrams) – available as Quill DOC file on the website, and also as Word DOC and RTF files on the QL Documentation CD.

The QL Docs page is at:

<http://dilwynjones.topcities.com/index.htm>

I've added scanned manuals for Cumana and Technology Research QL disk interfaces to my website and QL Documentation CD. They might prove useful for someone buying second-hand interfaces with no manuals, for example.

<http://dilwynjones.topcities.com/index.htm>

<http://homepages.tesco.net/dilwyn.jones/index.html>

There is also a generic manual, a general purpose manual suitable for most FLP-type (i.e. Tony Tebby/Qjump standard software) older interfaces, but not suitable for Gold Card, Super Gold Card, etc – the manuals for these are also available from the same sources.

Launchpad Screen Saver Update

Dilwyn Jones

The LPsaver screen saver system supplied with Launchpad and also separately downloadable from my website has been updated to fix a bug reported when running on version JM and JS QDOS ROMs.

Some of the modules did not manage to cover the full screen on a 512x256 screen, due to a bug in one of the extensions files used.

V1.04 fixes this bug and is available to download from the Launchpad page on my website – existing users need only replace the LPsaver_obj program file. The documentation has a small, insignificant change only.

<http://homepages.tesco.net/dilwyn.jones/launchpad/launchpad.html>

and follow the link at the bottom to the Launchpad downloads page.

Sprites Collection

Timothy Swenson

I'm working on a project to collect sprites and make them available in one collection. I've worked on this and now have the collection on my web page. The sprites are in three zip files based on the Mode of the sprite and the source of the sprite.

QLSPRT4.ZIP – Collection of 38 Mode 4 sprites gathered from QL sources. Authors are attributed.

WNSPRT4.ZIP – Collection of 82 Mode 4 sprites that have been converted from Windows Icons.

WNSPRT16.ZIP – Collection of 485 Mode 16 sprites that have been converted from Windows Icons.

They are now available at

www.geocities.com/svenqhj/myfree.html

I don't have the artistic ability to do a whole collection of my own sprites, so I figured using Windows Icons as a source would make for a quick and large collection. The "icon" sprites in collection are not perfect and need some work to be good QL sprites. Feel free to use them as a start for your own sprites. If you modify them to make them better, please e-mail them to me and I'll add them back into the collection (probably in a new zip collection).

I'd like to thank Wolfgang Lenerz for writing BMP2SPR and for writing a program to convert Mode 24 sprites in to Mode 4 sprites.

I've just uploaded a number of new QL mode 16 sprites donated to the Sprite Collection by Francois Van Emelen. These are sprites that he designed and created himself. The file is **QLSPRT16.ZIP**.

TURBOPTR News

George Gwilt

tptr_ext It has been found that tptr_ext v5.04 does not reserve enough space for the name list and name table for the keywords it loads. This has been corrected on v5.05 which can be found on the SQLUG site

www.jms1.supanet.com

in the file **tptrp07.zip**.

The fault was traced to the macro FNPROC. A corrected version of this macro is in the file **gdlib03.zip**.

tspr Also new in tptrp07 is an update of tspr which shows sprites. It now shows a sprite's mode, size, origin and time constant.

SMSQ/E News

Wolfgang Lenerz (SMSQ/E Registrar)

SMSQ/E 3.05 should be available soon from your dealers... The sources are out now at:

www.scp-paulet-lenerz.com/smsqe

QPC2 v3.12

Marcel Kilgus

The new QPC2 v3.12 and SMSQ/E v3.05 for QPC are as usual available from my page at <http://www.kilgus.net/qpc/>

QPC2 - V3.12

Small fix in DOS device to make it even more compatible with WIN.

SER ports can now be connected to COM ports higher than COM8.

New command QPC_WINDOWTITLE to amend the title of the QPC window.

Fixed a problem with relative WIN path names.

SMSQ/E - V3.05

Corrected QL mode 8 sprite cache handling.

Rptr distinguishes better between loose items & appsub menu items.

SPP open clears CD inactive count.

Fixed 3d border bug.

Swiss QL Club Meeting

Jon Dent recently wrote on the QL mailing list:

On Saturday 28th February the Swiss QL club had a meeting in Sursee. My wife Elisabeth took some pictures which you can see at

<http://www.babyurl.com/fcQZ8y>

We tried to install the new soQL version with CHAP on Urs König's computer but although we managed to connect we ran out of time before getting the mailers set-up. Still Urs is going to give them another go on his own so maybe we'll here from him soon.

News from Peter Graf

Peter Graf recently wrote on the QL mailing list:

"As some of you know, I'm working on a software that has the realistic potential to provide

- Native ethernet for Q40/Q60

- Driver for Nasta's unfinished ethernet extension (QL/GC/SGC..)

- Native connectivity to TCP/IP equipped printers (alternative to USB?)

- Graphical POP3+SMTP email client

- Reliable file up- and download by network or serial

- Webserver

- TCP/IP stack, PPP,SLIP

- Free of charge

- Fully open source

Since I'm originally a hardware rather than a software guy, you can imagine how tough it was for me. How much money is my effort worth? I don't know. But if someone asked me for commercial use of this, I wouldn't even consider to let him have it for £ 2000 – it's too far away from paying my time.

I'd like to do the opposite: I'd like to make my work available free of charge, the core as part

of a free QL operating system, the applications as free software. Amount of money to spend: £ 0.00

If nothing in the QL scene changes, my project will continue slowly at my own chosen speed, and the only platform to run on might be QDOS Classic, for the simple reason that it is the only free QL operating system on the Q60.

Time for an offer: I could possibly be persuaded to try and integrate my drivers into SMSQ/E for the whole range of QL style machines, by a simple act of wisdom: Place SMSQ/E under the GPL. (I have no problem to accept modifications to allow QPC remain commercial.)

[This is obviously a controversial statement from Peter and it caused some fairly heated discussion on the QL mailing list. What do you as readers of QL Today and any Q40/Q60 users out there think? Why not write and let us know - Editor]

QL Users Mailing List Changes

Bruce Nicholls, owner of the QL Users Mailing List, has decided to make changes to improve the mailing list and try to reduce the problems some users were having with the existing setup. From 20th March 2004, the mailing list has moved from quanta.org to Bruce's q-v-d.com (Quo Vadis Design) addresses.

Poacher turned Game-keeper?

Geoff Wicks

In his last QL Today editorial Dilwyn wrote:

"There are changes afoot at Quanta", adding,

"It is to be hoped that Quanta will be able to appoint enthusiastic new officials to carry the group forward to the future."

Regular readers of QL Today will know I have recently been one of QUANTA's most vocal critics. Two issues ago I wrote I would not be renewing my membership, but at the beginning of this year two strange things happened.

On New Years Eve I posted a message on the QL-users' email list asking about interest in a QL2004 at Eindhoven. To my surprise I received a reply from QUANTA in the first hour of the New Year. About a week later I received a telephone call from the Secretary of QUANTA

Existing users were moved automatically and the changeover seems to have gone without a hitch, but there is obviously a need to ensure that existing users know how to subscribe, unsubscribe and so on, especially as passwords are now used as a mild security measure.

New users can subscribe by sending an email to: **QL-Users-q-v-d.com-request@lists.q-v-d.com** with the word **subscribe** in the body of the email (no subject).

You can optionally specify a password by specifying one after the word 'subscribe', or one will be generated for you. If you want the list emails to be sent to an email address other than the one you are subscribing from (e.g. you are joining the list from work, but want the emails sent to your home address) you can specify an extra string after the word 'subscribe' (and the password if specified) like this:

**subscribe [optional password]
address=your_email_address**

Using QL-Users:

To post a message to all the list members, send email to: **ql-users@q-v-d.com**

Full web access to your account and archives of the mailing list can be found at the following web address.

<http://lists.q-v-d.com/listinfo.cgi/ql-users-q-v-d.com>

If you need anymore help at anytime please send an email to:

ql-users-q-v-d.com-owner@lists.q-v-d.com

asking me to meet the committee to discuss my ideas with them.

QUANTA has been going through a bad patch recently with falling attendance at shows and a failing magazine almost without contributors, yet here was evidence of a committee anxious to change. I spent 90 minutes with the QUANTA committee during which they convinced me of their willingness to take criticism on board. There are indeed "changes afoot at Quanta", and I have not only renewed my subscription, but also promised to work with QUANTA in making the necessary changes.

I should stress, however, this article is a personal view of QUANTA and should not be read as being the views of the QUANTA committee.

Many QL-ers believe that QUANTA is in terminal decline and no longer financially viable. The latter is not true. QUANTA may occasionally have to make economies and other changes, but this is good housekeeping and not a financial crisis. On the contrary QUANTA's financial stability is its greatest asset. In 2003 it lived within its income. Where the viability of Quanta is in question is

how it uses this money for the benefit of its members.

At the moment QUANTA spends most of its income on two activities, workshops and the magazine. Neither give value for money. In 2002 QUANTA spent about a third of its income on shows that were attended by probably less than a sixth of its members. A few simple calculations indicate QUANTA is subsidising shows to the extent of over £20 per attendee per year. QUANTA and show organisers have to sit down and discuss the frequency and quality of the show programme.

The problems of the magazine are also obvious. In 2002 I estimate the magazine production took up about half of QUANTA's income, yet scarcely anyone will write for it. In the 10 issues up to the end of volume 21 there were only 11 contributors and, of these, only 5 contributed more than one item. 2 of these 5 were the magazine editors. In 10 issues there were only 3 reviews of new products, all written by the same person. Without contributors an editor has the unpleasant choice of writing the magazine himself; resorting to excessive "padding"; or plagiarising from other sources.

Should QUANTA now look at the exploitation its greatest strength, financial stability? QUANTA has a capital of several thousands of pounds but should QUANTA become unviable for non-financial reasons, the legal position is that this capital would be lost to the QL community.

Another important point is that QUANTA has a favourable tax status as a non-profit organisation for the benefit is its members. To preserve this status the QUANTA committee has to be very careful about commercial activities for non-members. This is not idle speculation. A non-QL organisation to which I belong slipped up on this

point and within 12 months our subscription rose from £33 to £43.

The most recent use of QUANTA's capital was a loan to D & D Systems to finance the Q60. Without this help the Q60 would not have become a reality. When QUANTA makes an investment of this nature, it is making decisions about the use of a large amount of members' money. QUANTA's capital may seem large, but it would take only 2 or 3 unwise investments for it to disappear. For this reason any request to financially support a hardware or software project would have to be backed by a thorough business plan, and covered by the necessary legal safeguards. The QUANTA committee have never been good at selling themselves, and much work they do does not get the praise it deserves. They should boast far more about the Q60 loan and the financial support they give to UK shows. The QUANTA committee is anxious to profile itself more strongly in future and you will see the first sign of this in their advertisement in this issue of QL Today.

What do members want of QUANTA? Do they want to go on as before or do they want change? There are many ways in which QUANTA could reorganise. One example would be no more than 2 workshops a year, and the replacement of the magazine with a quarterly three page newsletter. The money saved could then be ploughed into software and hardware projects only available to QUANTA members.

QUANTA is at a critical point in its existence, and for the new chairman, secretary and committee there are important decisions to be made. Without adequate feedback from the members the task of the new committee will be almost impossible.

Multiple, dynamic, extended and chained Sprites

Wolfgang Lenerz

Thanks to the tireless efforts of Marcel Kilgus and Jérôme Grimbart, the QL World (or at least the SMSQE world) now has more colours. This can be immediately visible in modern software (such as QD or plug, plug, my own BMP2SPRT).

The new colours can also be used in "sprites" (in many other OSes they would be called icons), the small images used in loose menu items, such as

that generally used to show the item for moving the window.

What some of you may not have realised yet is that the sprite format has been enlarged, to such an extent that, today, there are several different possibilities to combine several sprites into "one": there are chained sprites, dynamic sprites, extended sprites and multiple sprite files. The different formats can even be combined amongst themselves!

Here I'll try to explain the difference between these formats, what they do and how you can make corresponding sprites.

I – Chained sprites

1 - The concept

This is something that was already foreseen at the inception of the Pointer Environment. It consists of combining sprites in such a way that they can be used in different colour environments. Let's hark back to the original QL and Pointer Environment. The QL has two colour modes, 4 and 8 colours.

A sprite designed for four colour mode doesn't look nice when shown in eight colour mode and vice-versa, though conversion routines may exist. So what would you do if you want your program to look nice in 8 colour mode and in 4 colour mode? First of all, you will have to design two sprites (one for each mode) – there is no way around it.

Then, when your program is running, you would normally have to determine what colour mode it is running in, and then change the sprite to the one

corresponding to that colour mode. You would have to do that for each sprite.

Of course, that would be quite tedious, so the initial Pointer Environment already made it possible to "chain" two sprites: one for 8 colour mode and one for 4 colour mode. The Pointer Environment itself then automatically chooses which one to display for the current colour mode! Today, you can "chain" sprites not only for modes 4 and 8, but also for the other colour modes, and the PE will still choose the best one to display for the colour driver the program is running in.

How do you make chained sprites? To get into this, we first need to look at how a sprite is built. Each sprite has a "header", a space where some information is stored about the sprite itself. The actual sprite data which are the individual colour dots that make up the icon, are not contained in the header, but somewhere else. The header enables you to find out where this information is stored. Let's look at the entire sprite header for a moment. This is a regular structure that looks as follows:

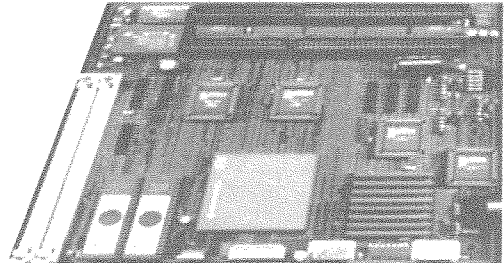
Name	offs	type	content
pto_form	\$00	byte	sprite mode \$01 byte colour mode / system sprite number
pto_vers	\$02	byte	dynamic sprite version number
pto_ctrl	\$03	byte	sprite control
pto_xsiz	\$04	word	X size
pto_ysiz	\$06	word	Y size
pto_xorg	\$08	word	X offset
pto_yorg	\$0a	word	Y offset
pto_cpat	\$0c	long	relative pointer to colour pattern
pto_mask	\$10	long	relative pointer to mask/alpha channel
pto_nobj	\$14	long	relative pointer to next object
pto_opts	\$18	long	OPTIONAL (relative pointer to) options
pto_blk	\$1c	long	OPTIONAL relative pointer to sprite block

This all works by "offset" (offs in the table above). An "offset" is just the distance from the start of the header. To make things easier for the programmer, many offsets are given names – they are easier to remember than the actual values. From the above table, we can see that "pto_vers" lies at offset \$02, i.e. two bytes along from the sprite header. It is a single byte and it contains the "dynamic sprite version number".

What we are interested in here is "pto_nobj". This is a long word at offset \$14 (i.e. 20 in decimal). So, 20 bytes after the start of the sprite header, we can find a "long" "relative pointer to the next object". Here, "long" means that the pointer occupies

4 bytes, which are called one "long word", hence the abbreviation "long". The content is a "pointer" to the next "object", which in this context is just the next sprite. Remember, we are making 2 sprites, one for each colour mode. So the first one contains a pointer to the next one. The "pointer" is just a number. It corresponds to the number of bytes further along in memory where we can find the header of this second sprite (if no second sprite exists, the pointer is 0). So if the sprite header for the second sprite was 1000 bytes further down in memory, the pointer would contain the value 1000. This way, the sprite header for the second sprite can be found easily by a simple

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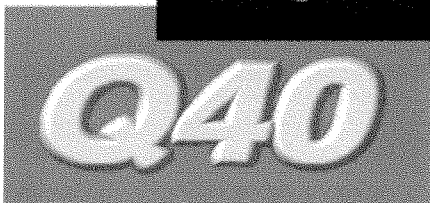
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addition (address where the pointer is + value of the pointer = start of the second sprite header).

That's all there is to it. When it is time to draw the sprite, the Pointer Environment checks along the chain of sprites to see which one would be best to display with the current colour driver.

2 - Making chained sprites in S*Basic

How can you make a chained sprite? Unless you are an assembler programmer, making chained sprites may seem difficult.

In Basic, you could do worse than use the following program, provided that you have typical sprite files, such as those produced by BMP2SPRT

```
def proc chain_sprite_files (file_in1$,file_in2$,file_out$)
local pointer, chan%,total,memory,mem_used,mem_used2
  chan%=fop_in(file_in1$): rem open first file
  if chan%<0:return: rem oops, can't open it
  mem_used=flen(#chan%): rem get length of file
  close#chan%
  mem_used=mem_used +(mem_used && 1) : rem make even
  chan%=fop_in(file_in2$): rem open second file
  if chan%<0:return: rem oops, can't open it
  mem_used2=flen(#chan%): rem length of file
  close#chan%
  mem_used2=mem_used2 +(mem_used2 && 1) : rem make even
  memory=alchp(mem_used+mem_used2) : rem reserve enough memory for 2 sprites
  lbytes file_in1$,memory: rem load first sprite into it
  lbytes file_in2$,memory+mem_used : rem load second sprite
  pointer=memory+20: rem pointer to next sprite goes in here
  poke_l pointer,memory+mem_used-pointer : rem set pointer now
  sbytes file_out$,memory,mem_used+mem_used2
end def chain_sprite_files
:
```

This loads two sprite files, sets the pointer from the first to the second and saves them again into a single, combined file.

space used by the sprite is an even number, will fall over with an error if this mem_used variable is more than 32 K.

Some lines here are a bit flaky: the line "mem_used=mem_used +(mem_used && 1)", which is used to make sure that the memory

If you do not have sprite files but make the sprites with the normal QPTR RD_SPRT function, which returns the address of the sprite, you could also combine two sprites like this:

```
Def proc chain_sprites(sprite1,sprite2)
local pointer
  pointer = sprite1+20: rem pointer goes here
  poke_l pointer, sprite2-pointer
end def chain_sprites
:
```

You pass this function two sprites and it will have sprite1 point to sprite2.

Environment versions. A typical example is a blinking cursor, such as that used by QD. This "cursor" is actually a sprite. It changes over time, because it blinks: at one moment it is there, the next one it isn't. And so on. Unfortunately, dynamic sprites can only be used for the pointer sprites - today, there is no way you can have a loose item display a dynamic sprite.

II - Dynamic sprites

Dynamic sprites are sprites that change over time. Dynamic sprites already existed in all Pointer

How do you make such a sprite?

Well, in much the same way as the chained sprites above. Dynamic sprites are, actually, composed of several different sprites. If we take the example of the QD cursor, there are two sprites: the first one, a solid colour block, is the "cursor" you see. The second one is just an empty sprite, which doesn't show anything. By showing first one, then the other, you make the colour block appear/disappear, thus giving the impression of a blinking cursor.

Since the dynamic sprite is composed of several different sprites, it behaves in many respects just like a chained sprite as described above. Here, the chained sprite to which the first sprite will point is the second sprite that will be shown when the time for the first one has expired. If the time for the second sprite expires, a third one will be shown (if it exists), else, in a round-robin fashion, we get automatically back to the first sprite.

So, this is indeed a chained sprite, the first sprite points to the second sprite which points to the third etc... The last sprite points to nothing (null pointer).

All we need now is a way to tell the Pointer Environment how long each sprite is to appear on the screen. For this we use "pto_vers", which you can see in the table above. This is a single byte containing the number of "ticks" a sprite is to be shown. A "tick" is a time interval of (about) 20 ms. If you set the value of the first sprite, in pto_vers, to 5, it will be shown 5*20 milliseconds, i.e. 1/10th of a second. Then another sprite will be shown. The next sprite must contain a number of ticks that is greater than the first one, and will be shown for the number of ticks of this second sprite minus the number of ticks for the first sprite. Thus, for example, you could set pto_vers for the second sprite to 10 (the first still being 5). The first sprite would be shown for 1/10th of the second as explained above, and the second sprite would be shown for (10-5)* 20 milliseconds, which is also 1/10th of a second.

To make these sprites in Basic, you can simply adapt the above two procedures, by poking appropriately increasing values into the pto_vers of each sprite header.

In theory, dynamic and chained sprites should be able to be combined.

III – Extended sprites

Extended sprites are new to SMSQ/E and the newer versions of the Pointer Environment. They can only be used in loose menu items. An extended sprite changes aspect according to the status of the loose menu item that contains it.

You may well know that loose menu items can have several statuses – Available (the item may be clicked), Selected (the item is "On") or Unavailable (the item can't even be clicked). Moreover, in any of these statuses (except unavailable) the item may be the "current" item, i.e. the item in which the cursor is located. This is generally shown by a border drawn around this current item.

It was thought that it would be a neat idea if items containing a sprite could change the way the sprite looked according to the status of the sprite, and whether or not it is the current item.

So the extended sprite format was born. An extended sprite is, again, a combination of sprites. There are actually five sprites to be exact and they are used in the following order:

one to be shown if the item is in the normal available status, one if the item is in the available status and is the current item, one for the normal selected status, one if the item is selected and also is the current item, one if the item is unavailable.

Since the sprites also change when the item become/ceases to be the current item, you may design items (containing sprites) that, for example, "light up" when the pointer passes over them.

Again, these five sprites will be linked. However, they can't be chained in the same way as for normal chained or dynamic sprites, since you could make a chained extended sprite (an extended sprite that, for each of the above five sprites, also contained several sprites at different colour depths).

So, another way was used to make extended sprites:

First of all, the sprite header must signal that the sprite is an extended sprite. This is done by setting bit 2 of the "pto_ctrl" byte (see above sprite header table!) to 1. You can do this from S*Basic by setting the byte to 4 (easy: poke sprite_header+3,4).

If this is so signalled, then, at pto_blk, there lies a "long pointer" to an extended sprite block. This

block itself just contains 5 long pointers to the five sprites. And that is it. Now the sprite contained in the item will change with the status of the item and whether or not it is the current item.

As for the extended sprite block, it contains the pointers to the five sprites. All but the first pointer may be 0 (null). The first pointer (item available) MUST exist and point to a real sprite.

Null pointers are handled as follows by the Pointer Environment:

- For available items:
 - * The pointer to the available item sprite MUST exist.
 - * If no pointer to an available AND current item sprite exists, then the available item sprite is taken instead
- For selected items:
 - * If no pointer to a selected item exists, then the pointer to the selected item AND current item is ALSO ignored. The available item sprite is taken instead for both.
 - * If no pointer to a selected AND current item sprite exists, then the selected item sprite is taken instead.
- For unavailable items, the available item sprite is used.

It is allowed, but not necessary, for any of these pointers including the first pointer (available item) to point back to the original sprite, which will then be drawn as a normal sprite!

This allows three cases:

- 1 - The original sprite can be an ordinary QL mode sprite, which will be drawn normally by older versions of WMAN. The newer versions of WMAN will use the extended format.
- 2 - The original sprite could be a simple empty shell, with just the relevant data (bit 2) and the pointer to a sprite block set.
- 3 - The original sprite could be a normal QL or 24 bit mode sprite which will be used by an item in any of its statuses.

Alternative 1 above will ensure that your software remains compatible with older versions of WMAN. Of course, any of the five sprites used by extended sprites can also be a chained sprite, thus allowing different colour depths to be used for this sprite!

IV - Multiple sprite files

This will only be of interest to the S*Basic programmer, and probably only to those using BMP2SPRT. A multiple sprite file is a file containing several sprites.

As a Basic programmer, you can make sprites either through the normal QPTR way (notably with the RD_SPRT function) each time the program is run, or dump the sprites into a file and load that file via LRESPR. BMP2SPRT even makes "basic" sprite files, which incorporate a keyword. You LRESPR that file and then you can use the incorporated keyword (function) as sprite address, whenever a sprite is necessary (of course, the keyword can be changed).

This allows you to include such a file in compiled programs using the \$\$asmb directive. The only problem with that is that if you have 20 sprites, you will have 20 files to be LRESPR'd or included with your compiled program, which can quickly become unmanageable. So BMP2SPRT introduces the concept of a multiple sprite file (I know, this is starting to sound like a plugfest for BMP2SPRT).

A multiple sprite file contains, first a sprite with a keyword and then several other sprites appended to that. If you know the offset of each sprite in that file, you can LRESPR the file and use the offsets to get at each sprite. BMP2SPRT makes a load_sprite procedure for you, something like:

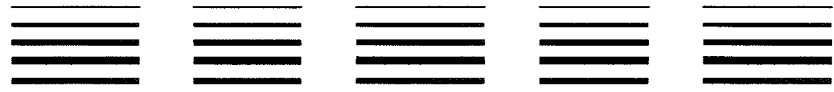
```
100 def proc load_sprites
110 rem the file is called
      dev1_basic_icons_sprites_bin
120  open_sprt = SP_OPEN
130  batch_sprt = open_sprt + 3944
140  save_sprt = open_sprt + 9088
150  mult_sprt = open_sprt + 13012
160  tool_sprt = open_sprt + 18156
170 End def load_sprites
180 :
```

Here SP_OPEN was the keyword for the first sprite. The file containing this is just LRESPR'd and then you can use the resulting variables for your sprites.

You don't have to use BMP2SPRT to make such a file, you can make it from hand if you want! It's just a convenient way of storing sprites for the sprite programmer.

Needless to say any of these sprites can be a chained, dynamic and/or extended sprite!

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Easyptr and TurboPTR

George Gwilt

Introduction

Both Easyptr and TurboPTR have the same aim, namely to make it reasonably easy to write PE programs using S*BASIC. The compiled result of both is a program containing within itself all information about the required window definitions together with any text, sprites, blobs and patterns needed.

Unfortunately, at the moment at any rate, Easyptr does not cater for the new WMAN which allows GD2 colours inside a window definition. TurboPTR does have this facility. One way of introducing the new system to existing Easyptr programs might be to translate the the window definitions from these programs to Turbo PTR format. The translated definitions can then be amended by the existing program EDIT_WDA to include the new WMAN colours. Although it would be necessary to alter the program to read the pointer by the TurboPTR rather than the Easyptr method this should be a relatively minor operation.

I have just completed such a translation program and this article describes how I did it and what I discovered on the way.

Window Formats

My first task was to find out how window definitions are stored by Easyptr. In fact it seems that each window, or "menu" as it is called, is created separately and placed in its own file (possibly with the tail `_men`). The format is almost exactly that of a window definition defined in the QPTR manual. (I will come to the "almost" later.)

The window definition is followed by any text, sprites, blobs and patterns needed. When all the "menus" have been produced, they are appended to a `_cde` file containing the extras needed for the Easyptr program.

When the Easyptr program is to be run in S*BASIC, first the `_cde` file is LRESPRd to load the extras and to make the "menus" available (as THINGS?). When the program is compiled by Q_Liberator the `_cde` file can be included so that no special action is needed at runtime.

The same result is obtained by TurboPTR but in a different way. Window definitions are set up at runtime from information in a set of files, one for each part of a window definition. The file containing information for all the main windows used is in the file called `fwd`. Loose items are in `fli`, and so on.

TurboPTR differs from Easyptr in that each of the `f..` files contains all the information for all the windows in the program. In addition to the `f..` files there is a `text_list` containing all the items of text, and a file `tmpo`, short for temporary, containing the sprites, blobs and patterns.

In a standard window definition and in an Easyptr "menu" a pointer to text or sprite is a word relative pointer to the address containing the item. In the `f..` files numbers are used instead of pointers. These numbers, from 0 upwards, refer to the position of the required item in the text, sprite, blob or pattern list. One result of this method is that even if more than one window uses a particular item that item only appears once in its list. In Easyptr such an item would appear in all the "menus" using it.

It was "almost" (see above!) easy to run through the Easyptr "menus" setting the corresponding entries in the `f..` files for TurboPTR. The slight difficulty was due to the official window definition.

Almost all the separate sections of the definition are of fixed determinate length. When there is an indefinite number of repeats the end of the set is marked by a word `-1`. However, the exception to this comes in the definition of an application window. This is made up of:

- (a) a fixed header of 32 bytes.
- (b) zero, one or two pan/scroll blocks of 24 bytes each.
- (c) zero or one menu block of 34 bytes.

It is, of course, essential to know whether the 33rd byte from the start of a particular application window definition is the first byte of a pan/scroll block or the first byte of a menu block or perhaps the first byte of a sprite or something else not in the application window at all.

Well, we can tell how many pan/scroll blocks there are by examining the number of `x` and `y` control sections recorded in the fixed header. But what of the menu block? There is a menu block if there is a pointer (in the menu block) to the row list, this being the ONLY link connecting a window definition to the objects in an application window. Conversely, if there were no objects there would be no row list pointer. Unfortunately there would be no menu block either. Impasse! Easyptr cuts this Gordian knot by setting a menu block whether or not there are objects.

TurboPTR, being different, solves this problem by putting a `"1"` at the end of the header block if there are objects and `"0"` if not.

One more difficulty remains to be described. If there is a pan/scroll block there must be a "part window control block". A pointer to this appears in

the pan/scroll block. Unfortunately this pointer is relative, not to the address of the pointer itself, as is usual, but to the window status area. Since I do not know whether or not Easyptr sets up such a "part window control block" inside a "menu" I simply make up an appropriate "part window control block" and set my own values in the fcd file.

Actually, the values in this "part window control block" are changed by the PE software whenever scrolling takes place so that the starting values will be overwritten and are thus relatively unimportant.

The "text_list" file is set up from all the items of text in the "menus". When an item is found in a "menu" the "text_list" is searched and the number of its position used in the f. file. If the item is not in the "text_list" it is added. This means that items of text used in more than one "menu" appear only once in the "text_list".

Sprites are somewhat different. Items of text can easily be copied as needed but to extract a sprite given its address is not so easy. It would have been nice to be able to extract sprites and place them directly in "tmpo", ensuring that no sprite appeared more than once. What I did in fact was to assume that sprites, blobs and patterns always come at the end of a "menu", in which case all I needed to do was to make sure that I copied to "tmpo" the section of a "menu" from the address of the earliest detected sprite, blob or pattern to the end of the "menu". The file "tmpo" works fine even if it has too many bytes but not if it has too few.

Practical Applications

When I had completed eptr2wda I tried it out on the _cde files included in John Miller's PEK Kit. This worked with no problems. Also the program EDIT_WDA proved that it was easy to alter a colour in a window to one of the new WMAN/Gd2 ones. EDIT_WDA also displayed the sprites to good effect, except for "alarm" which, being red and transparent, was invisible against EDIT_WDA's red background! In this case there was no "alarm". I then successfully tried the program on Geoff Wicks' Spelling Crib from one of the cover disks distributed with QL Today.

Much emboldened I turned to Launchpad . . .

Launchpad

. . . It was then that disaster struck for the second time.

The first disaster was some time ago when it was pointed out to me that the number of sprites in Launchpad was more than the 30 allowed by

TurboPTR. At a blow TurboPTR was rendered inadequate! I survived that disaster by setting a new way of defining the size of the loose item status block allowing it to be variable, depending on how many sprites there actually are in each window. Of course it is essential to allow existing programs written with old versions of TurboPTR to continue to work. What I did was this.

Firstly I amended the S*BASIC function M_WDEF in tptr_bas so that in each window an impossibly large border was set. Secondly I amended the keyword M_SETUP so that it would check the marker and set the old or new version of the loose item status block accordingly. It would also reset the border to its correct size.

The second disaster caused more extensive havoc.

When I tried to produce a _WDA file from Launchpad's "menus" I found that the word size of 32767 was breached all over the place. Launchpad has 66 windows and some of them have a large number of loose items. The file fli became well over 32768 in size. This meant that while producing the _WDA file I had to copy the f. files in sections rather than as complete strings as formerly. More sinister was the effect on the intermediate file, which is called, simply, "f". This file consists of all the f. files together with the "text_list" and "tmpo" all strung together each headed by a word containing its length. This file is then translated directly into a set of DATA lines containing signed integers. But this fails if any of the constituent files in "f" are over 32767 bytes long.

Similar trouble occurred inside "tmpo". You will see why when I describe its format. It starts with a word giving the relative offset to the header for blobs. The second word is the relative position of the header for patterns. Then follows the header for sprites. Each header has the same format. The first word is the number of items less one, so that -1 indicates absence of items. If there are any items the word containing the number of items is followed by one word for each item giving the relative position of the item. The "tmpo" file produced for Launchpad was well over 40000 bytes long so you can see that many of the relative positions in the headers must be wrong.

As with the first disaster, it was necessary to find a solution that would allow all existing TurboPTR programs to continue to work. This ruled out the obvious change which was to replace word pointers and sizes by long words. Two facts led me to the solution I have adopted. In the first place all the

relative pointers in "tmpo" are positive, because it happens that all headers always precede the items to which they refer. Also, obviously, all file lengths are positive. In the second place all relative pointers are even.

I thus decided to use negative integers to signal values greater than 32767. Since the positive values were to be even I could increase capacity by doubling. The negative number giving the smallest positive result is -1. This has to produce the lowest even number greater than 32767, ie 32768. This sets the formula to:

$$-k*2 + 32766$$

for the number corresponding to the negative number k. The largest number, produced by $k = -32768$, is 98302. The new method has increased capacity by a factor of very nearly three.

QDT : Call to Graphics {time to make pretty}

J.D. Hunkins

This is about the time in a major project when you start thinking about how it will ultimately look to the user. So I started thinking and...

I NEED GRAPHICS HELP!!!

This should be considered a formal call for help in generating the QDT icon sets and sample wallpaper. For those of you not at all graphically inclined, you can skip ahead if desired and see a few samples of what has been suggested and a quick update on the project.

Note that the update part of this is being kept short as I am working very hard in preparing to show QDT at the US QL Show (see separate article for news of that event).

Formal Graphics Request

Thanks in a very big way go to those who already have contributed so much to what QDT will eventually look like. This includes the color drivers for all the different systems, the wman enhancements that move these colors and so much more into our world, and of course for the new system sprites.

Having altered TurboPTR I found that eptr2wda does indeed produce viable TurboPTR style windows for Launchpad. Also EDIT_WDA shows all the sprites in Launchpad in all their glory and of course allows these windows to be edited.

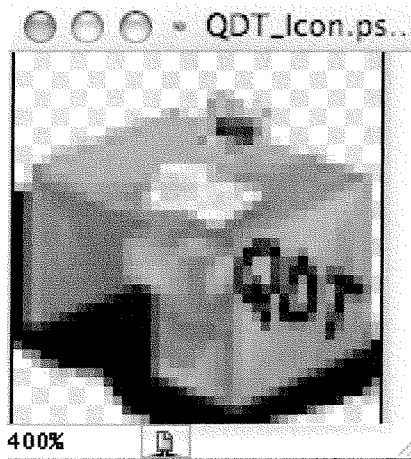
Conclusion

It is always satisfying to be able to extend the scope of a program and I am grateful to many people who have helped me in this case; in particular to Dilwyn Jones for distributing the demo version of Launchpad (does the full version have 2000 "menus"?), to Roy Wood for sending me vital information about Easyptr and PEK and to John Sadler for suggestions regarding TurboPTR (some of which are still in the pipeline).

I hope that the new version of TurboPTR will prove of interest. Who knows, it might even provoke me to produce further enhancement.

But QDT, being a graphical desktop interface, needs good icon sets for folders and programs, along with nice background screens. Now, before everyone drops everything and rushes to the aide of QDT, a few formalities need to be made clear [sorry for the business tone but...]

- 1) this is voluntary only
 - no benefits (other than fleeting fame) will be forthcoming (IE: no money)
 - I will be lucky to sell enough copies just to get to this next show :-)



- 2) all graphics must be yours or proven to be public domain under no licensing restrictions other than an acknowledgement of the source in a way that QDT will support

- this also means that you can't directly copy something over, change a color, and send it in
- copyright laws will be honored
- you will maintain the copyright on graphics that you

own, with a specific agreement for usage by QDT

- 3) not all graphics will be used
 - I hold the right to decide what to include in the QDT release or the QDT support website
 - some graphics will not be available with the

Jochen Merz Software

Im stillen Winkel 12 D-47169 Duisburg
Tel. 0203 502011 Fax 0203 502012
<http://smsq.j-m-s.com> smsq@jms.com

text87plus4 PATCH! You can order it NOW!

Now for
Q40, Q60,
Aurora!

text87, one of the few programs which does not run properly in high-colour mode can now be modified to work in 16 bit colours on the QXL, QPC, Q40, Q60 and Aurora (with SMSQ/E Version 3). Marcel has added a new driver for this program which will be added to the program and enable you to run it nicely in high-colour mode. You have two options: it can look the same way as before (white/red/green on black) or - much better looking - colours on a nice grey. It is up to you, you can try both settings.

text87plus4 PATCH is available now from J-M-S for only EUR 12,- (incl. p&p!)

Easy-to-use, will it provide you with a text87 which works without having to re-start QPC in a different colour mode or use a DISP_COLOUR 0 which will screw up the rest of the display. No, with text87plus4 PATCH it will work without the need to change display resolution - and we think it looks even better in grey!

Please note: the PATCH program requires you to own the latest version of text87plus4 English (E4), file size 116850 bytes or the latest version of text87plus4 German (G4), file size 117354.

You do not need to configure or modify the result of using text87plus4 PATCH - just execute this one instead of your original program!

The Patch is sold with the permission of text87 author, Fred Toussi.

You will find a secure contact form on the J-M-S homepage now, where you can submit credit card data etc. without having to send it via email:

SMSQ.J-M-S.COM

original release but may instead be available at a later date on the QDT support website or release updates

- 4) some graphics may need to be modified
 - no modifications will be made without your approval and/or assistance

OK, enough of the ugly part of business. Please to be sure to read the policy statements at the end of the web page at:

<http://www.jdh-stech.com/QDT/qdt.html>

There is a general contribution policy statement there now. The graphics contribution form will be added in the near future.

Now for the fun part – what graphics does QDT need

The big one is ICONS. Both a set of default icons along with icons for various type of folders, types of documents, and for all the major programs for the QL that someone might want to run from QDT (IE: nearly everything).

As you think about what would be nice, please realize that two things tend to be important for this kind of graphics – simplicity and uniformity. A

good desktop isn't over overwhelming but instead has a clean, simple, organized look to it.

To give you an idea of a nice example of a pleasant desktop, Thorsten Herbert has put together an image of what he imagines a QDT desktop may look like. [you can see more of his graphics work for the USA QL Show at:

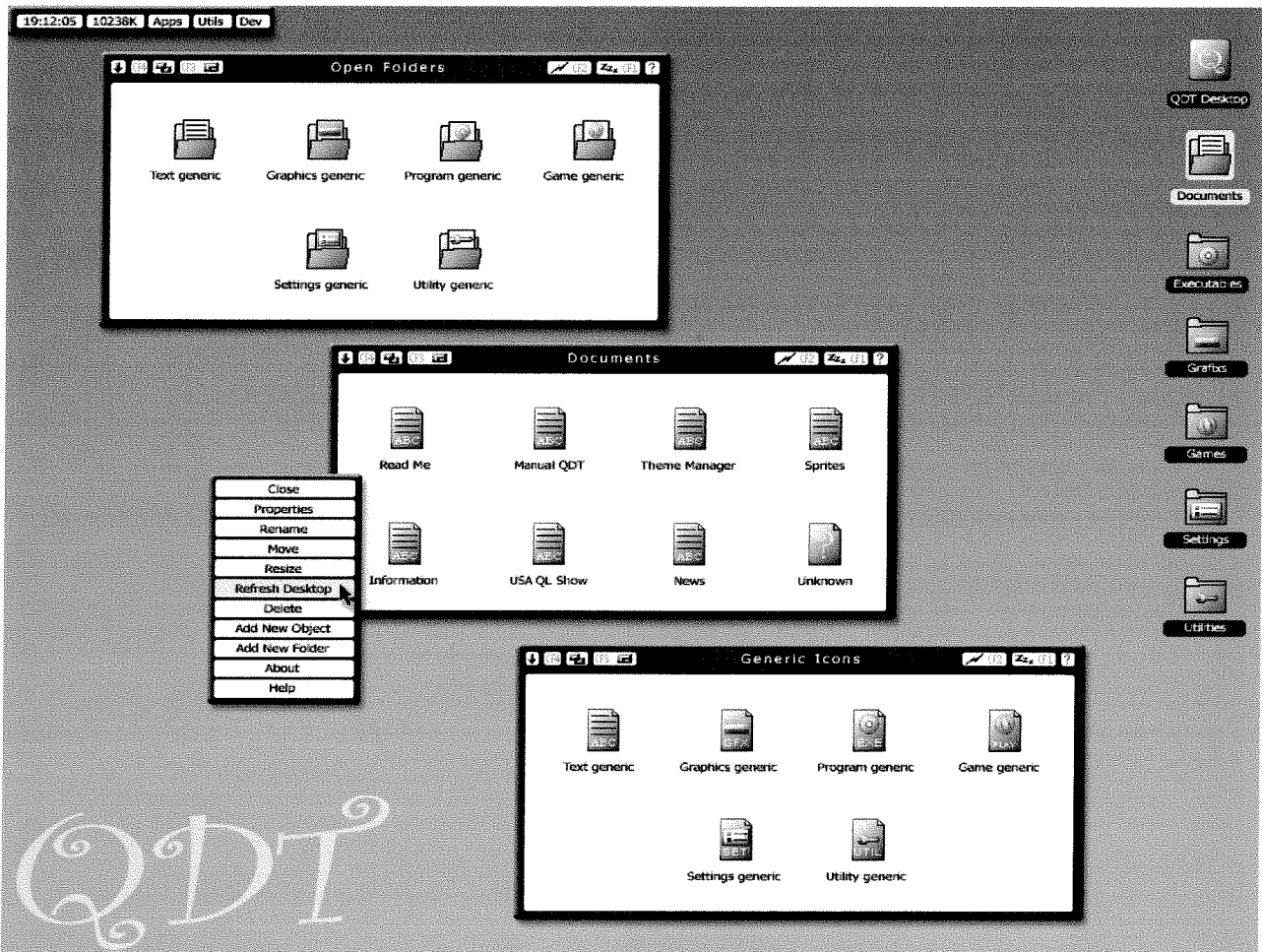
<http://www.jdh-stech.com/extras.html> and elsewhere in this magazine].

One of the upcoming add-ons for QDT will be a Theme Manager that will allow the user to switch between Icon sets and backgrounds, etc. to change to different 'moods' as desired.

Here is the list of information that is important if you wish to contribute. I will handle conversion to the QDT formats, assuming that the following requirements is followed. QDT will also ship with conversion capabilities for some formats.

1) Default Icons:

- QDT Desktop
- Text Document
- Closed Folder
- Executable Folder
- Program
- Graphics, generic
- Open Folder
- Unknown



A possible QDT Desktop Example

2) Icon Specs

a) formats [Icon sets should encompass 1 for each type, initial QDT will start with 256 color mode only]

- Medium, 256 color[40 x 40 pixels, 256 colors from Icon Palette (see below)]
- Small, 256 color[20 x 20 pixels, 256 colors from Icon Palette (see below)]
- Medium, QL color[40 x 40 pixels, 4 QL Colors]
- Small, QL color[20 x 20 pixels, 4 QL Colors]

b) color palette: 256 colors is used, based on the Netscape 216 Color Cube (internet safe colors) plus additional greys, etc. As long as the icons are saved in full color (24 bit) and the colors are in this palette, they can be cleanly converted. For the actual palette and additional QDT specific info, please see Appendix A of the QDT: Icons technical document found at:

<http://www.jdh-stech.com/QDT/documents.html>

c) special capabilities

- alpha will be supported eventually in the 256 color mode only, but not initially (time issue).

Submitted icons can have alpha information included but should look OK without it (for now)

- a future QDT will be able to enable or disable background blocks around an icon [FYI as you design]

d) ICON submissions should be in one of the following formats. Please do not compress them!

- .PNG format (only way I can accept Alpha channel info for now)
- .BMP format
- .TIFF format
- .QL sprite assembly files

The other thing that is needed will be some good wallpapers. The initial shipment of QDT will only support a screen snapshot as specified in the latest SMSQ/E documentation. We of course will need ones for different standard screen sizes. Eventually, QDT should be able to support some

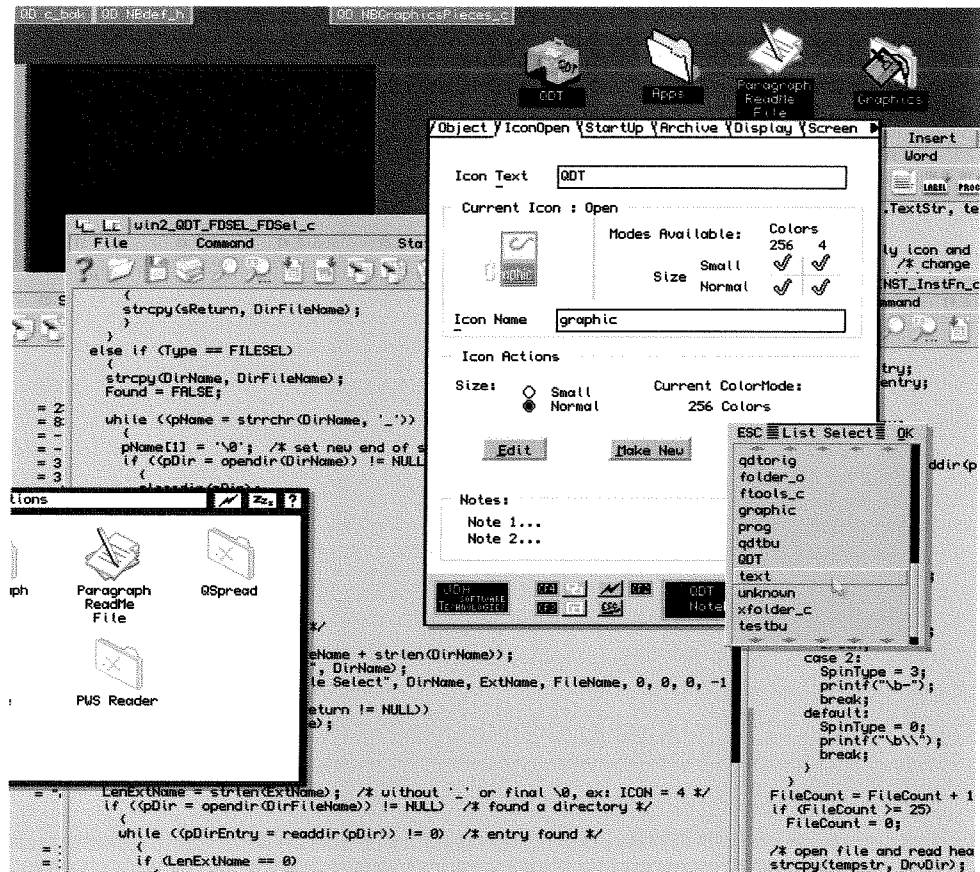
compressed formats and perhaps resize them to fit. Another future feature :-)

And Now the Promised Word: QDT Progress

QDT has made some very major progress over the last month or so, as I prepare to show it at the US QL Show towards the end of April. The installer is basically done - just tuning the database, limited alpha copies have been sent out.

The primary QDT program has seen some major fatal error fixes (down to one only that I know of, happening when I have too many folders with too many icons - a hint I would believe). I am busy putting in all the save capabilities on the notebooks and will switch back shortly to the main desktop to keep on turning on features.

For your viewing pleasure I am including a working image of QDT on my development system. Note that it is just the opposite of a clean and pleasant desktop which I just discussed - I said that I needed graphical help :-)



QDT in the Midst of Development

This image does show the integration of the QMenu capabilities into all the notebooks, including automatic generation of a list of choices (in this case, available Icons). It also shows the case

where the icon in the QDT Desktop notebook does not match that on the Desktop itself. I have just changed it in the notebook where the new one shows up properly but haven't closed the notebook. After closing the notebook, the icon will be saved to the desktop itself (IE: you can always change your mind!).

You also see some samples of my code. Just this morning I actually had about 15 different files open from different sections; just before I got a headache!

Hopefully before the show, time allowing, I may be able to turn on some of the very nice new WMAN color capabilities. Priority will be features first, then tuning the image. But all the hooks are

in there, ready to be toggled and tuned.

At this point, I do not know if anything will be ready for sale at the QL USA Show, but I am not ruling it out just yet. Tons of stuff to do between now and then, not to mention that pesky work thing on the side. Please keep an eye on the website for QDT:

<http://www.jdh-stech.com/QDT/qdt.html>

It is getting exciting on my side folks. I see the progress daily as more and more stuff is turned on and implemented. Please keep an eye on the QDT website and hopefully, many of you can be at the show here in the USA and get your hands on the new desktop.

Launchpad - A review - November 2003

Malcolm Cadman

The Launchpad suite

Launchpad is a piece of utility software written by Dilwyn Jones over the latter two years of 2001 to 2003. The version reviewed here is v0.93, the first publicly released version, and was obtained at the November 2003 Byfleet Show. The cost is £20. Launchpad is part of a suite of programs that together are supplied on 2 floppy discs, including the manuals in electronic form. A 2-page 'Quick Start Guide' is also provided in printed form to get the user started quickly.

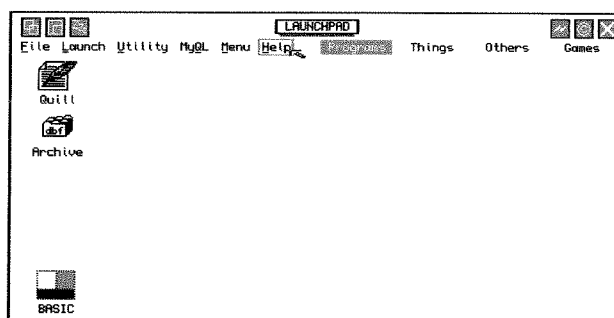
Once copied onto backup discs, which is always advisable, or to another source, e.g. a Win1_ folder named 'LP', Launchpad is started by 'ex win1_LP_launchpad_obj'. This command can be incorporated into a 'boot' file. With QPAC2 it can also be assigned to a keyboard shortcut, e.g. ALT + L.

What is Launchpad and what does it do?

As the name implies Launchpad is a utility which allows the user to 'launch', that is start other items of software in the QL Environment. Together with this ability it provides a Graphical User Interface (GUI), which can be thought of as a 'wrapper' around the ability to successfully negotiate the computer and its facilities.

With Launchpad gone are the days of typing in commands on the 'command line' of the BASIC interpreter! Now, using Launchpad, you can operate the QL just like any other GUI equipped computer, e.g. a PC running M\$ Windows.

The GUI is attractively presented as a simple front screen in the Extended Pointer Environment. Launchpad needs the 'Wman' present, and the other features of the PE, as it uses a mouse pointer to move around the screen, and both left and right mouse clicks to operate the choices that are available.



The 'Main' window on start-up has a white background, with the options to select:

File, Launch, Utility, MySQL, Menu, Help - on the top left of the window,

Menu1, Menu2, Menu3, Menu4 - on the top right of the window.

The remainder of this screen window is initially blank. Later this is where an 'icon' - a graphic picture - together with a program title, can be located.

In the 'Quick Start Guide' the author encourages the user to just initially experiment with the contents of the pull-down menus from the options on the top left of the window.

Pull-down Menus

File - Add program, Create new directory, Print settings, Save settings, Users, Log-off, Exit.

Launch - Initially empty

Utility - Accessories, Clock, Command, Launch a program, Lock Launchpad, Pick/Remove a program, QPC: Launch DOS/Windows file

RWAP Services NEWS!

New Websites!

We are proud to present our new websites! Starting September, we have separated our business in three separate websites.

You can find them at:

<<http://www.rwapadventures.com/>> (Adventure Games)
<<http://www.rwapervices.co.uk/>> (General Site) and
<<http://www.rwapsoftware.co.uk/>> (Software)

Our old address: <<http://hometown.aol.co.uk/RWAPSoftware/>> is of course still functioning but will be deprecated in the future.

New Products!

QWORD 2.0 NOW WITH DIGITAL
SOUND ON QPC2!

The wait is now over! Q-Word version 1 is finally available!

Platforms:

QPC/QXL, Q40/Q60, Aurora (with SGC)

Prices:

All versions without P-Word £20.00p
All versions with P-Word £30.00p

Notes:

Q-Word DOES NOT require SMSQ/E with GD2 support-OR- SMSQ/E at all on the Aurora or Qx0 machines. It works on the highest colour depth everywhere regardless of Operating System.

The Aurora version is available on either HD or ED disk. For the latter add £1.00 to the price. ED version is uncompressed and can be run directly from the floppy. All other Floppy versions are compressed. QPC/QXL version comes on CD. Non CD versions DO NOW support digital sound on QPC2

Quantum Leap Drives

After many years of unavailability, here they are again! These are high quality Mitsubishi constructed/IBM badged drives with full warranty.

Unlike previously sold ED drives, these do not require FLP_JIGGLE and have no problems formatting 720K disks. However for the latter a switch is included with the cable.

ED Bare unit (no cable) £ 29.99p
ED Boxed unit (complete with cable/ PSU) £ 98.99p
Single unit Cable (with switch) £ 4.99p
Dual unit Cable (with two switches) £ 5.99p
(More options available, contact us for details. Also available mass quantities of ED and DD disks!)

for Windows

For QLers that run Windows or with incompatible hardware for Talent Games, we now have re-released these adventures so that they can run on your Windows-equipped PC. No Emulator, floppies, microdrive backups etc. required, just a one-click install! Of course the full QL line is still available! (See side column)

Talent Games for Windows ea. £ 10.00p
(Each Game includes a runtime installation of QLAY-2 by Jimmy Montesinos)

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Old Favourites!

Utilities

Sidewriter v1.08	£ 10.00p
<i>Landscape Printing (EPSON printers)</i>	
ImageD v1.03	£ 10.00p
<i>3D object generator</i>	
Q-Help v1.06	£ 10.00p
<i>Superbasic On-Screen help system</i>	
Q-Index v1.05	£ 5.00p
<i>Keyword-to-topic finder</i>	
ProForma ESC/P2 Drivers v1.04 for ProWeSs	£ 8.00p
<i>Printer Driver</i>	

Applications

Flashback SE v2.03 (upgrade only)	£ 5.00p
<i>Database</i>	
QL Cash Trader v3.7	£ 5.00p
<i>Accounting/Finance</i>	
QL Payroll v3.5	£ 5.00p
<i>Accounting/Finance</i>	
QL Genealogist v3.26	£ 20.00p
<i>Genealogy</i>	
Genealogy for Windows	£ 50.00p
QL Genealogist to Windows version upgrade	£ 25.00p
QL Cosmos v2.04	£ 5.00p
<i>Planetarium</i>	
Q-Route v2.00	£ 25.00p
<i>Route Finding</i>	
Upgrade from v1.xx	£ 5.00p
Britain map v1.11	£ 2.00p
BIG Britain map (needs 2Mb) v2.03	£ 5.00p
Various Britain Area maps (ask for details)	ea. £ 2.00p
Ireland map v1.00	£ 5.00p
Belgium map v1.01	£ 2.00p
Catalonia map v1.03	£ 2.00p
P-Word UK English Dictionary (500.000 words!)	£ 15.00p
<i>Dictionary</i>	

Leisure

Return to Eden v3.08	£ 10.00p
<i>Adventure</i>	
Nemesis MkII v2.03	£ 8.00p
<i>Adventure</i>	
The Prawn v2.01	£ 8.00p
<i>Adventure</i>	
Horroray v3.1	£ 8.00p
<i>Adventure</i>	
West v2.00	£ 5.00p
<i>Adventure</i>	
The Lost Kingdom of Zkul v2.01	£ 5.00p
<i>Adventure</i>	
All 6 games above	£ 25.00p
D-Day MkII v3.04	£ 10.00p
<i>Strategy/War Simulation</i>	
Grey Wolf v1.08	£ 8.00p
<i>Graphical Submarine Simulation</i>	
War in the East MkII v1.24 (upgrade only)	£ 5.00p
<i>Strategy/War Simulation</i>	
Open Golf v5.20	£ 8.00p
<i>Sports Simulation</i>	
QuizMaster II v2.07	£ 5.00p
<i>Quiz</i>	
Stone Raider II v2.00	£ 5.00p
<i>Arcade Game</i>	
Hoverzone v1.2	£ 5.00p
<i>Arcade Game</i>	
Deathstrike v1.5	£ 5.00p
<i>Arcade Game</i>	
Flightdeck v1.0	£ 10.00p
<i>Flight Simulation</i>	
All 6 games above (Open Golf, QuizMaster II, Stone Raider II, Hoverzone, Deathstrike and Flightdeck)	£ 28.00p

Notes on Software requirements

The following programs have a minimum SGC card requirement: P-Word, Qword, Big Britain MAP for Q-Route

MySQL - 14 items with Icons Clock, Display, Keyboard, Launchpad Mouse, Network, System, Users RAM1_, DOS1_, DEV1_ FLP1_ WIN1_, RAM1_

Menu - Menu1, Menu2, Menu3, Menu4 - Names of these can be defined by the user.

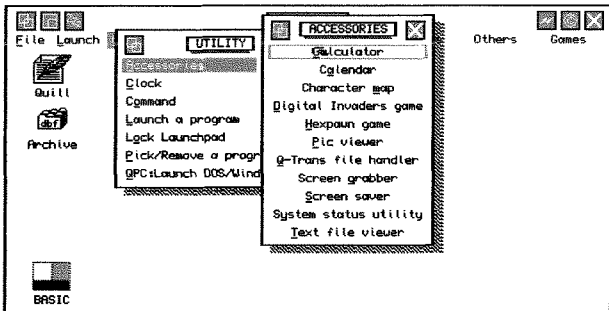
Help - Access to 17 Help files as _txt files.

From the above you begin to realise that there is quite a lot to get to know about and use in Launchpad.

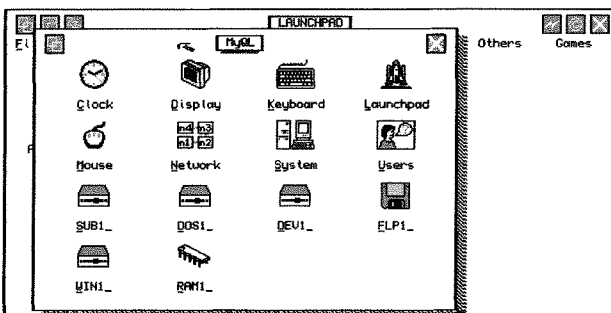
Where to begin?

Perhaps the easiest options to explore first are - Utility and My QL. Both give you access to other features of either the software provided as a suite with Launchpad, or features of the QL Environment itself. (Many of the latter you may not have found at all easy to access from the Command Line Interpreter of a QL).

Although exploring what the Utility and My QL menus offer is a diversion from the main purpose of Launchpad - to launch software. Yet, as an introduction it to using Launchpad it serves to help confidence in the features of the suite as a whole.



From Utility can be accessed, as expected, a number of additional features - Calculator, Calendar, Character map, Digital Invaders game, Hexpaw game, PIC viewer, Q-Trans File handler, Screen Grabber, Screen saver, System Status utility, Text file viewer.



From My QL the 14 items listed above can be accessed with convenience and ease.

By now you will have realised that the suite of Launchpad is very 'feature rich', whilst offering ease of access and use to the QL Environment.

Launching programs

The main purpose of Launchpad is to provide the user, via a GUI, a more convenient access to starting software than the Command Line Interpreter. Launchpad is not a file handler as such, like for example Windows Explorer. Yet, as you will discover, it has many features that can even rival the sophistication of Explorer. (I happen to think that Explorer is an exceptionally well implemented product of its type - you just use for its job, which is the hallmark of good software).

With Launchpad, rather than typing in 'ex win1_program_name', etc, to start a program (the 'old fashioned way!'), you can now simply click on an icon to launch that particular program. A practice that is now common and familiar with most modern computers employing a GUI to aid their use.

At this stage there is one problem with Launchpad - you have to first of all define what software you have access to on your system! It does not automatically detect this for you when it starts up - which is common on other systems. Of course, this is a 'one-off' task to go through. As, once defined, your 'desktop icons', and other preferences, are then saved for use in the future.

To aid first use 3 icons are provided - one for ARCHIVE, a second for BASIC and a third for QUILL. These examples demonstrate how the Launchpad GUI works. However, you will need to check that they 'point' to where you actually have the appropriate software located on your system.

To define the correct 'path', move to ARCHIVE, for example, and click the right mouse button. This will bring up a sub-menu. Move down to ALTER, select and right click.

This brings up the LAUNCHPAD ITEM DEFINITION FORM. Quite a daunting title (!), yet easy enough to define, once you have had some practice.

The key line to define is the 'Filename', as it is this that sets the 'path' to actually locate the software on your system. If this is not correct for your system, then you will need to re-define it. Click into the box for 'Filename', and then right click to bring up the FILE viewer. Go through the contents of your system to locate the correct path. Using this method lets Launchpad detect and write in the path name for you. Once you have defined the correct path, try launching the program by clicking on the desktop icon.

After gaining confidence with ALTER, move on to establishing a new program of your own. This is where the fun starts!

Go to the File option, and click on 'Add new program'. This will bring up the LAUNCHPAD ITEM DEFINITION FORM, previously mentioned.

Type the title of the program in the title box, and press ENTER. In the 'Filename' box, right click to bring up the FILE viewer. Use this to search for the whereabouts of your program. Left click on the Directory, and the executable file. The path will be written in for you!

Now add an icon for the program. Move to the icon box and right click. A wide selection of pre-defined icons will appear - in fact 2 pages of them! Carefully select an appropriate icon for the software - many are specifically designed to correspond with well known QL software titles. When complete, exit the FORM and try launching the program.

If you have done everything correctly it will launch first time with ease! If not, then just try again until you are familiar with doing this. Do not worry about unwanted attempts, as they can be deleted later by selecting DELETE.

For example, you can launch ARCHIVE from within EXCHANGE:

Program name - ARCHIVE **Filename - Win1_Xchange_xchange** **Job name - xchange**
will do the trick. The GUI will have ARCHIVE as the item, but it will be launched from within XCHANGE in use. Which is more convenient. There is also a pre-defined icon available for XCHANGE.

Of course, you can dispense with ARCHIVE and QUILL as separate items, and just have one item called XCHANGE, with its icon.

Once you have mastered defining an item you have mastered using the core of LAUNCHPAD as a GUI. That is all there is to it! You can now set up definitions for all of the key pieces of software that are launched from 'executable' files.

For myself, this process took around 2 hours to complete the setting up of 40 programs with icons. Many I found had a pre-defined icon available, for others I use a 'near enough' icon, from those provided as a generic type of icon.

This is where I believe that the author could consider providing a fully defined desktop, rather than just 3 examples. The user would then only have to ALTER the path names to suit their own system. This would make Launchpad look 'the business' from the start, rather than be greeted by an almost empty main screen. The less 'expert' user may be put off by all the effort involved.

Another benefit would be the correct assignment of all of the pre-defined icons that are provided (in itself a lot of work that the author is to be complemented on). To give a 'standard' user desktop. I found that when assigning an icon to a program, I often 'missed' a pre-defined icon specific to a program. The icon pages themselves are very crowded to view in one go.

I believe that all users should, for consistency, use the same icon for a program. By so doing we all become familiar with the new desktop appearance, and associated icon for standard software. At present you can assign any icon to any program, if you so desired. This wouldn't be very sensible in practice of course! In addition you can create your own icons, especially for example to go with your own programs. Although, at present there is no icon creator provided in the Launchpad suite.

At this stage, when you have defined the paths for your programs and assigned the icons to the programs, you have Launchpad working as a GUI. Now just use it! Forget all that typing! For myself, I now use Launchpad as my preferred access to the QL environment. A GUI is so much more convenient.

Other features

The FILE menu allows for the creation of directories, as well as assigning different users for the system (up to 16 users). Each can define their own desktop environment. A user can also have a password to protect access to their environment. This allows for multiple users, e.g. for a family. Or a single user can define several individual profiles for themselves.

The LAUNCH menu allows QUICKLAUNCH by having directories for different program groupings. I have defined: Graphics, Editors, Games. Then, from within these headings a number of specific programs can be accessed.

The UTILITY menu has a feature to launch a DOS/WINDOWS program via QPC. I use this to start Windows Explorer. So, a QL desktop is now being used to control a Windows program - a nice reversal of fortune!

Within UTILITY - Accessories, are two very interesting features of the suite. The first is a screen saver, which allows a number of pre-defined screen savers to be selected. This is an independent program - LPsaver. With QPC, these screen savers work separately of any Windows

screen saver. Which is interesting when QPC is used as a window in Windows!

The second is QTRANS, which is a file handling facility. Again this is a separate program. Which is a very powerful and useful file handler, which in itself can also be used to launch programs. I think that this is a very good implementation. It makes finding, copying, moving, renaming, etc, quite painless, as it uses a novel two screen side by side approach - source and destination (which is reversible). This very powerful feature is somewhat well buried within the depths of the Launchpad suite. Even though it is called in to action from some of the MyQL options.

I think that the author should give this more prominence. It should always be available from the desktop - with its own icon. This is the key to making Launchpad more than a program launcher, and more into a universal file handler - like Windows Explorer and the like.

QTRANS has been made available separately by the author over the last year. I am somewhat surprised that such a gem it is so hidden within Launchpad. As the QTRANS utility is in itself so 'feature rich'.

As already mentioned, from within Launchpad QTRANS is used to look at installed devices like floppy disks, hard drives, etc. This is accessed via the MyQL menu. Thus it is at its core. Yet it could be made even more intrinsic in overall operation. For example the installed devices could have their icons permanently available on the main desktop, rather than being hidden within the MyQL menu. The latter name 'MyQL' I am not that fond of, I would prefer the menu to be called 'System'.

Would it be possible to 'drag and drop' a file or folder onto a device icon in future versions of Launchpad? This would extend the GUI feel and operation. The 'drag and drop' feature is well implented for copying or moving defined desktop icons. I found this feature very useful to first of all define all the program icons in the Programs menu - maximum 40 items. Then copy and move to the other menus available, all done by 'drag and drop'. Essentially the Launchpad desktop has an 'invisible' grid of 40 slots, which is presumably mapped as a matrix by the software.

I expect that the QDT (QL Desktop) being concurrently developed by Tim Hunkins, will go much further than Launchpad in being a complete GUI desktop. Yet it is interesting how far the author has been able to take Launchpad as an initially simple GUI program launcher. Together will all the

other associated programs in the suite it makes a significant contribution to making the QL Environment easy to use and readily accessible.

I believe that this is something that we have all missed out on for a long time. Not having a GUI has 'lost' many QL users to other systems. Particularly the less 'expert' users. Hopefully this excellent suite will encourage greater use of the QL, and even 'win' (a pun on 'Win1...') some old users back, as well as new users. It brings the use of the QL up to date.

A significant bonus of a GUI is that programs are much easier to find, as they are 'visible' as an icon. From the command line they are usually buried within folders. Launchpad, therefore, makes for better use of existing software, as everything is now readily available.

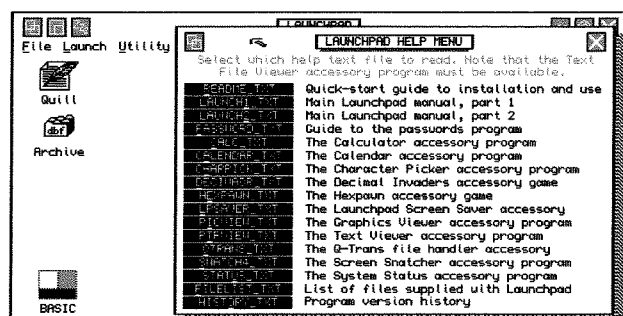
Other features

A further feature of Launchpad is that up to 4 screens of menus can be defined - initially these are called Menu 1 to 4. I have renamed them as Programs, Source, Utilities, Games. Which helps in organising access to specialist programs.

A CD-ROM with the free demo version of QPC, linked with a demo version of Launchpad would be a good advert for the new QL Environment that is starting to take shape. All making it easy to use. Exciting and interesting times ahead!

Of course, what we also need is new good quality software applications, as well as known programs being updated to use all of the latest features. Talented programmers take note!

Overall, my view of Launchpad is that it is an excellent contribution for all QL users to have available. At this stage of development - version 0.93 - it is already a well featured and sophisticated suite, that fulfills a basic simple purpose very well. It also contributes significantly to making the QL more enjoyable to use.



Launchpad offers extensive Help menus

TURBO Revisited

David Denham

It's a bit old, it's had its critics but it still comes in useful from time to time. I'm talking of course not about the QL Today editor (!) but about the Turbo Compiler.

It's been around since the early days of the QL back in the 1980s. Turbo was the second of the SuperBASIC compilers released by Digital Precision Limited (the first was Supercharge). The Turbo Compiler is mainly the work of one Simon N. Goodwin originally, with a team including people like Freddy Vachha (MD of Digital Precision), Chas Dillon, Dave Newell and Gerry Jackson. Fairly recently, Turbo was made freeware, meaning you can copy and obtain copies of it for free, and it has come under the wings of George Gwilt, an experienced QL programmer whose work includes the Gwass and Gwass Lite (Gwasl) assembler programs often referred to by Norman Dunbar in his assembler series.

Why use a BASIC compiler?

A SuperBASIC compiler takes a BASIC program and converts it into an executable program - one you can EXEC. Usually this results in a faster running program, sometimes a smaller program, a program where the user does not have to know or see the SuperBASIC source file and the program is often more secure, since the programmer can take advantage of enhanced error trapping available in compiled programs. Compiled tasks often fix bugs in the older versions of BASIC such as on version JM or JS ROMs, and ensure that a program runs consistently across all ROM versions where certain commands may not have worked fully or at all in early ROM versions.

A compiled program does not have to be interpreted when you execute it, so it will usually run faster than the original program. Turbo seeks to convert the BASIC program into equivalent machine code. There are two types of compiler - those that compile into an intermediate code (e.g. Q-Liberator compiler) and those that seek to convert into machine code (or as close as possible). This created a large amount of discussion in the early days as to which was the best compiler for a QL user, but in truth the answer was that both had features which may have made them more suitable, depending on what you sought to do. Turbo always had the edge on speed, but tended to be stricter with syntax issues and had slightly different rules with passing parameters by reference to and from procedures and functions, and

of course Q-Liberator was always preferred by those who sought to compile programs making use of the pointer environment.

These days, the arguments tend to be less distinct. Faster QL-compatible systems tend to mean that the speed argument is less important. Turbo is free and still maintained with new releases appearing from time to time. Q-Liberator is still a commercial program though not actively maintained any more, though still surprisingly up to date and compatible with modern systems.

I have long been a fan of both compilers and thought it might be time for a new look at Turbo since it's now available free and offers a lot of new and updated facilities.

Turbo was always offered with a small toolkit of useful extensions to BASIC, some of which were Turbo-specific. This included error-trapped INPUT functions for example. More recently, Turbo Toolkit has been updated by David Gilham and George Gwilt.

This article is based on the following versions of Turbo Compiler and Turbo Toolkit:

Turbo Compiler (parser) version 4.20

Turbo Toolkit version 3.34

Where do I get Turbo from?

Turbo Compiler and Toolkit can be obtained from most QL PD libraries and from several website. The primary source is John Sadler's Scottish QL User Group website:

<http://www.jms1.supanet.com>

Click on the SQLUG logo and follow the on-screen prompts in your browser to get to the George Gwilt and Turbo programs page.

If you do not have internet access, get Turbo Compiler and Toolkit on disk GE01 from Dilwyn Jones's PD library service. The manuals for Turbo are also freely available from both sources (on disk GE02 from the PD library service). You can even get the sources for Turbo if you are interested in compiler design, though these are not required for general use.

It is well worth getting the new manuals even if you have the old bright red paper Digital Precision manual, as people like Timothy Swenson have put a lot of effort into updating them.

It can be worthwhile getting the 'Associated Programs', a set of utility programs not essential to use of Turbo, but quite useful nonetheless.

How do I set up Turbo?

If you downloaded the Turbo packages from John Sadler's website it will be a zipped archive. You should unzip these with a QL version of the Unzip program. Do not try to unzip it on a PC or other computer system as the likelihood is that the dataspace and executable flags of the QL jobs would be lost and they would not work as a result.

Once you have unzipped the packages, you'll have the following files.

Turbo:

- PARSER_TASK - this is the 'parser' part, which reads and checks the original (source) SuperBASIC programs.
- CODEGEN_TASK - this is the Code Generator, which produces the final compiled program.
- T_CONFIG_DATA - together with T_CONFIG_LOAD set standard Config blocks in programs.
- UTILITY_TASK - lets you configure the Turbo Toolkit, etc.
- CHANGES.TXT - A text file listing details of recent updates to Turbo

Turbo Toolkit:

- TURBO_TK_CODE - the full Turbo Toolkit, for general use
- TURBO_SMS_CODE - a slightly smaller version of Turbo Toolkit for SMSQ/E users.
- TURBO_REM_CODE - a subset of Turbo for inclusion in compiled programs.
- TURBOBASE_ASM - source code assembler file for the toolkit.

Turbo Manuals:

- TURBOTOC.TXT - Table of contents for the manual.
- TURBOS1.TXT to TURBOS4.TXT - The Turbo compiler manual, in 4 sections
- UTILITY.TXT - Manual for Utility Task
- T_CONFIG.TXT - Manual for T_CONFIG_DATA and T_CONFIG_LOAD
- TASCOM.TXT - Manual for Task Commander, a utility to help turn a compiled program into a BASIC extension (i.e. a file you can LRESPR rather than EXEC)
- TURBODEM.TXT - Describes the contents of

the Turbo Toolkit demonstration files supplied with the 'Associated Programs')

Additionally, these reference documents are there but you shouldn't really need these at first.

- TURBOREF.TXT - Reference file. Lists error messages and Turbo Toolkit commands in alphabetical order
- LINKLOAD.TXT - Examples on how to use LINK_LOAD
- INTFILE.TXT - Simon Goodwin's explanations of the intermediate code produced by the parser for the code generator.
- TURBOREP.TXT - An article by Simon Goodwin about Turbo's design.

Associated Programs:

- TASCOM - Task Commander turns an executable program into a SuperBASIC keyword.
- DATASPACE_TASK - A program to change the dataspace of a task.
- LIBRARY_MANAGER - A program to extract routines from...
- TURBO_TK_DEMOS - ...this set of useful demonstration procedures and functions.
- MAKE_MODULES - a utility to split a SuperBASIC program into smaller modules.

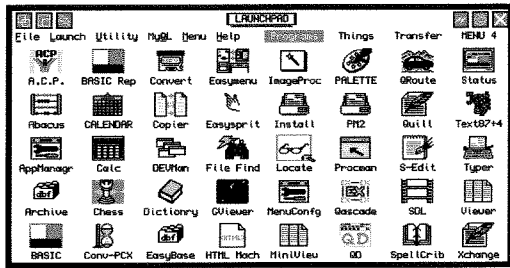
Unzip all the files you think you'll need and put them all on a floppy disk or in a subdirectory on your hard disk. If you intend to use Turbo Toolkit, you'll need to RESPR or LRESPR it:

```
LRESPR FLP1_TURBO_TK_CODE
```

There are three different versions of Turbo Toolkit. Turbo_TK_Code is a safe bet in that it will work on all systems. Turbo_SMS_Code will only work on SMSQ/E systems, but is slightly smaller (if you are using SMSQ/E you should use Turbo_SMS_Code as it handles some features of SMSQ/E probably not catered for by the 'vanilla' Turbo_TK_Code). The third version, Turbo_REM_code, is something new for more recent versions of Turbo where you can build the toolkit into a compiled program (rather like the \$\$asmb facility in Q-Liberator) rather than have to LRESPR it before you can use the program. To see how to use the 'include' or 'attach' facility you have to look in the CHANGES.TXT file to see how to use the directive REMark %% facility:
REMark %%< filename>,a,b

LAUNCHPAD

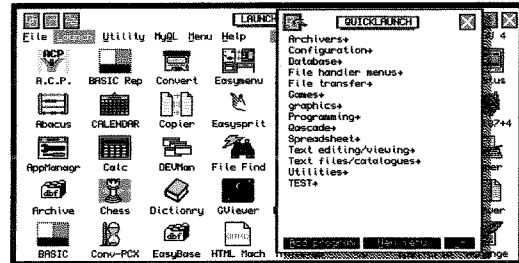
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from where you can download a free trial version, limited only by the number of programs you can set up to run on it – more than enough to try out Launchpad.

Launchpad is available (price £20.00) from either the author:

Dilwyn Jones, 41 Bro Emrys, Tal-y-bont, Bangor, Gwynedd, LL57 3YT, U.K.

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or from:

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email: darrenb@esatlink.com (Payment in Pounds Sterling or Euros)

The filename indicated by <filename> (in this case Turbo_Rem_Code) is included and two parameters a and b specify:

- a is the offset to the initialisation code in the file, or 0 if there is no initialisation routine.
- b the offset to the definitions table within the file included.

The REMark %% line can be anywhere in the SuperBASIC program. This is a fairly advanced facility and you do not have to know about this just yet.

Turbo_Rem_Code is a special version of the Turbo Toolkit designed for inclusion in the compiled program, and it uses the directive `REMark %f1p1_turbo_rem_code,6,10`

Once you've loaded the Turbo Toolkit, load your SuperBASIC program and list or edit a few lines to ensure it's the right program and ready to be compiled.

Now ensure that the PROG_USE default is pointing to the disk drive or sub-directory containing PARSER_TASK and CODEGEN_TASK programs. If it's pointing somewhere else, the CHARGE command used to start the compiler will not find the compiler files! So, assuming the compiler is on FLP1_ the command PROG_USE FLP1_ will make Turbo ready to start compiling. Now enter the command CHARGE and the compiler's "front panel" settings display should appear - see figure 1.

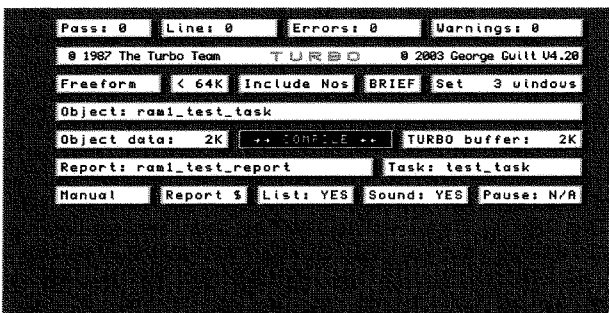


Figure1.gif - The Turbo Compiler Front Panel

If for some reason the CHARGE command does not work, you can also start the compiler with an EXEC_W or EW command:

```
EW PARSER_TASK:EW CODEGEN_TASK
```

which is essentially what the CHARGE command does.

This front panel lets you set all sorts of options for the compilation process. The top line is an

information display, showing you how far it's got, and whether any errors have been detected or not.

On the third line down, the first box lets you choose between FREEFORM and STRUCTURED. This alters the level of checking for programs which are correctly structured or not. To activate these options, use the cursor arrow keys to move the black highlighter to the box required and press the SPACE bar to toggle the options available. The next box chooses whether to use 16-bit code or not. If the compiled program is likely to be fairly short (less than 64kilobytes long) Turbo will try to use 16-bit code to generate a slightly smaller and faster program.

The next options lets you choose whether or not to include line numbers in the compiled program. This has a bearing on the length of the compiled program, but of course makes it harder to debug faulty programs, because error messages cannot tell you the line number at which the error occurred. The next option lets you choose between BRIEF, FAST and REMs options, and finally on this line the rightmost box selects how many windows are to be copied from BASIC to the compiled program - how many open windows it starts with.

The fourth line down lets you specify the filename of the compiled program. There is a default here of RAM1_TEST_TASK when you first run it, you can change this if you wish (like all the default settings) by using the standard Config or MenuConfig programs to configure the default settings built into the PARSER_TASK. There is no configuration block in the CODEGEN_TASK or Turbo Toolkit files though.

The fifth line down lets you specify the Object Data (the dataspace of the compiled program, which defaults to a mere 2 kilobytes) in the left hand box (this can be changed later by running a program called DATASPACE_TASK if you do not enter the best value while compiling), while the right hand box on this line lets you specify how much memory is to be allowed for the Turbo compiler buffer, which has a bearing on the speed of compilation. Modern QL systems have plenty of memory, so there is no need to skimp here.

A compilation report can be sent to a file by entering a filename into the Report box. This will help you if errors are generated, as you can

load it into an editor or print it out rather than have to view and remember the details as it flies by on the screen if not sent to a file. The TASK name box on the same line lets you specify a task name for the compiled program - this is the name you see for a program when you issue a JOBS command to get a list of programs running. The bottom line lets you set string options for compilation of programs with local strings etc (a fairly complex subject, see the manual), whether or not a listing is generated and whether the audio beeps issued by the compiler are turned off or on (silent compilation).

The bottom left of the program is the Quit option. Normally, it will display the MANUAL option (i.e. you are setting compilation options manually), but if you press SPACE it will change to Quit Now, which lets you quit from the compiler when you press ENTER. If you wish to finish at the front panel and tell the compiler to start compiling, move the black highlighter up to the COMPILE box on the fifth line down and press the SPACE bar. Compiling begins and will take some time depending on the length of the program. If serious errors occur, there will be a message and the parser will stop, otherwise it fires up the code generator to begin writing out the compiled task. All being well, there'll be no errors and you'll have a nicely compiled program you should be able to EXEC when ready. Remember of course that if you generated a program on a ramdisk you'll need to save it to disk before you lose it when you switch off or reset your QL! Compiling to a ramdisk can be much faster than compiling to floppy disk, especially while test compiling.

There are some further options available with the CHARGE command, which help automate the compilation process to some degree:

CHARGE 'filename' will give the filename specified to the compiled program.

**CHARGE ** (i.e. a backslash after the CHARGE command) will automatically compile the program by using the configured default settings and skipping past the front panel stage. Useful if you wish to quickly produce an ad-hoc test compilation for your own use without being too bothered about the settings.

Just to make life more complex (easier once you get used to them, especially when compiling more complex programs) there are a number of compiler directives (compiler-specific) commands

you can add to your BASIC program to control the options you set via the 'front panel' system. For example, the command `TURBO_model 1` will force the compiler to create a program as if you had specified the "64K" option in the front panel. `TURBO_objdat '50'` would assign a dataspace value of 50KB to the compiled program. If you are developing several fairly complex programs, you can include these directives in your programs to ensure consistency each time the program is changed and recompiled and they can be a great time saver.

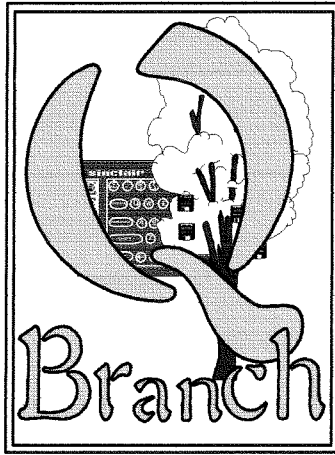
How compatible is the Turbo Compiler?

The answer to that is fairly complex. You need to read the extensive documentation files supplied for the compiler to find exactly what it will and what it won't compile. For general use, a few simple guidelines are all you'll need and you'll manage to compile most small programs without problem.

For more complex programs, you'll need to read the manuals in more detail, but you quickly get used to it. The main things for me were the error trapping facilities (Turbo has its own `WHEN_ERROR 1` and `WHEN_ERROR 2` error trapping systems as opposed to the SuperBASIC/SBASIC `WHEN ERROR` command), the use of parameter passing by reference (change the value of a parameter in a BASIC procedure or function definition and the changed value is not necessarily passed back to the calling line of BASIC unless you precede the definition with a `REFERENCE` command and a list of parameters), and the need to be careful with use of dimensioned strings as the rules can be a little different to ordinary BASIC strings.

Several changes to the compiler have been made since SMSQ/E became more widely used. The behaviour of the windows is much improved when pointer environment is present, for example.

George Gwilt has produced some add-on programs and utilities for use with Turbo. The most remarkable of these is TurboPTR, a well thought out utility to let you write and compile pointer driven programs using the Turbo Compiler. It can be compared in some ways to systems such as Tony Tebby's QPTR toolkit, but TurboPTR is specifically geared up for the Turbo Compiler.



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Spring Surprise

Spring is upon us and we have a bit a news for those of you waiting for the Text 87 patch for te Aurora and Q40. This is now available so contact us if you want one. We have a small amount of second user QL hardware for sale at the time of going to press. Again, call for details.
 If you are interested in an improved Qubide there may be a new version available shortly. I hope to have more news of this in the next volume. Don t forget to renew your subscriptions to the magazine quickly so we do not have to send reminders.
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The Turbo-config or T-Config utility lets you include configuration blocks for use with Turbo compiled programs.

The 'Associated Programs' are updated versions of programs included with the original Turbo Compiler, updated to either work better on recent systems or to take advantage of enhanced facilities available on more recent QL systems.

Summary

The compiler and toolkit have had a major facelift in recent times and it is well worth getting hold of a copy. If your only experience of Turbo has been with older versions from the first decade of the QL, or merely reading about the Digital Precision versions, get hold of a copy and try it

out. It is a fairly complex package and of course the sheer amount of documentation may well put a few people off learning to use it.

A number of new commands and variations on existing commands have been added to Turbo Toolkit and Turbo Compiler in recent years, especially in areas useful to SMSQ/E and GD2 users, this alone makes it well worth updating to the current versions.

There is much much more to Turbo than can be covered in a short article like this. I hope this article will help to get you started with it and encourage you to use the Turbo toolkit and compiler after all the work put in by people like George Gwilt and David Gilham to bring the Turbo system up to date.

SMSQ/E Versions

Dilwyn Jones

SMSQ/E as an operating system for the QL and compatibles has been around for a few years now, and been through many different versions during that time. It is now beyond version 3 (version 3.05 at the time of writing) and is currently being updated mainly by Marcel Kilgus (author of QPC) with others contributing code and modules, with Wolfgang Lenerz in France acting as a registrar, tying it all together, co-ordinating matters generally and collating all the source files and so on. Probably a thankless job I'm sure, as SMSQ/E developers have to cope with versions of SMSQ/E to run on Atari computers, QL systems, QXL cards, Q40 and Q60 computers, not to mention the QPC emulator!

You can also check the latest version of SMSQ/E at Wolfgang Lenerz's website. The address is:

<http://www.scp-paulet-lenerz.com/smsqe>



The sources for SMSQ/E are also available here for software developers interested in contributing to the development and advancement of the operating system.

The documents on the website are quite long and go further back (actually to version 2.0 of SMSQ/E) than the length of this article allows.

For those who do not have internet access, I thought I'd summarise the main changes to recent versions here, so that if you are already an SMSQ/E user you can look at what's changed recently and decide whether it's worth updating your copy or not.

Some of the changes have the initials of the main author of that change after the details of the change:

MK - Marcel Kilgus
JG - Jerome Grimbert
WL - Wolfgang Lenerz
FD - Fabrizio Diversi
PW - Per Witte

Significant steps in the development of SMSQ/E which have stuck in my mind have included the implementation of event handling facilities in v2.71, introduction of the Euro currency symbol (v2.91), the first Q40 version (v2.92), the GD2 "colour drivers" introduced on Q40 at v2.94, GD2 on Atari ST/TT at v2.96 and generally documented and implemented on QPC at v2.98. From v3.00 the new window manager has been introduced and further developed, as well as the support for 256-colour (8-bit) screen support on QPC and Aurora/Gold Card - known as Mode 16.

SMSQ/E Version 2.90

In-line selects can have an explicit end select.
In-line defines can have an explicit end define (V2.89).
Thing use does not smash D3 before TH_USE call (V2.89).
Dragging the dursor with wake speed 0 does not lock up.
Atari wait for HDD ready abandoned (test cmd crashes some disks)

SMSQ/E Version 2.91

Assign to slice of string array repaired (damaged in 2.89).
Selective suppression of active keystrokes.
Euro symbol added to fount.

SMSQ/E Version 2.92

First Q40 version.
Revised pointer scheduler routine.

SMSQ/E Version 2.93

Q40 border width truncated to byte.
Q40 stipples 1 and 3 reversed V2.92
Q40 changes for floppy disk driver carried into other versions.
DV3 length check on direct sector read / write
Events not thrown away by calls to WM.RPTR within WM.RTPR (eg WM.CHWIN)
PIPE open channel ID xxxx0004 not confused with directory (I hope).

SMSQ/E Version 2.94

First extended colour version
Hit not thrown away by certain button event routines (QPAC2).
- bug introduced in V2.93 when trying to fix Job events.
FP FOR loop rounding corrected for end point $\neq 256 \times \text{step}$.
IDE drives format fixes for spurious bad sectors.
IDE drive limited to < 4 Gbyte (> 4 G requires new format).
Writethrough cache disable code reordered.
Q40 MMU set up for QLiberator.
IDE and PC floppy disk timeouts measured during init.
Select on expression compiler bug fixed.

SMSQ/E Version 2.95

Length of negative integer to string conversion fixed!!!
GD2 - Spurious D0 return from pan/scroll by zero fixed.

GD2 - Pan with stippled paper fixed for extended colours.

Another job / pointer event fix fix.
SSSS free queue length corrected.
a Q40 translation for instructions > 16 MB corrected / removed
b Q40 DISP_SIZE checks $> 512 \times 256$ not $\neq 512 \times 256$ for large screen Q40 More
rigourous initialisation (does not assume reset)
c Q40 DISP_SIZE size check not lost on QL \Rightarrow 16 bit change Q40 sms.dmod
sets d2 = 0 Q40 ROM reset vector restored
Q40 transparent translation set for ROM > 4 Gb
drive truncation corrected
When reformatting a partition that has changed size and the new format has fewer allocation sectors and the new number of allocation sectors is odd, the free space linked list is now correctly terminated.
e Q40/60 FPU/MMU detection corrected.
Q40 COM interrupts not masked on Q40 motherboard!
Q40 LPT interrupts masked in Multilo chip and interrupt scanner
Q40 Machine/Processor transferred to system variables.
Q40 serial mouse re-enabled after mouse buffer full.
Q40/QXL Insert key coded as Shift Space (was CTRL F6).
GD2 modified to set \$18063!

SMSQ/E Version 2.96

First Atari ST/TT GD2 version.
Length of negative integer to string conversion fixed again.
Consolidated Q40 V2.95 test versions a to e.
Atari select drive 1/2 for stopping drive corrected (error since 2.93).
Single sided formatting restored.
Atari disk change density detection timeout increased.
Keypad ENTER creates DO event on all extended keyboards.

SMSQ/E Version 2.97

IBM keyboard / keypad / keyrow / tables updated.
Atari diskette format density selection corrected (bug since 2.93).
Gold Card Test version

SMSQ/E Version 2.98

Q40 (and other SPP common drivers) channel name for ser H/I corrected.

Q40 ... SER_FLOW corrected Push unnormalised FP corrected.
Revised init - soft RESET / hard keyboard RESET for all versions.

SMSQ/E Version 2.99

RND no longer returns invalid floating point for RND=0.

A3 addressing problems in pointer open routine fixed.

d Fixed free/total sector info of STAT and DIR for large drives (MK).

Re-implemented sms.frtp the way it was supposed to be (MK).

Changed FREE_MEM SBASIC function to use sms.frtp (MK).

Background colour now drawn on-the-fly instead of consuming memory (MK).

Changed RAM disc for fast memory use (MK).

e QPC implemented "fast" memory (MK).

f EXTRAS command changed to show all SBASIC commands no matter where their code is located (MK).

x,y,z better handling of shadows in high colour mode (MK).

"Fast memory" also on Qx0 (MK).

Italian language support (FD).

No more MOVEP for Qx0 (FD).

SMSQ/E Version 3.00

Fixed bug in screen driver that could crash the machine in low memory situations (MK).

Added many sprite modes (mode 64, mode 32/33 etc.) (MK & JG).

Added support for large sprites (MK).

New high colour WMAN with lots of new features (MK & WL).

New sprite formats with alpha blending & RLE compression (MK).

Better handling of hard disks for Q40 (JG).

Better handling of system sprites, many more system sprites introduced (MK).

WMAN colour palettes introduced & config block for them (MK).

New keywords FEX etc... (PW & MK).

Default keyboard may be different from default message languages (WL).

Sprites may be drawn differently depending on item status (WL + MK).

New con/ptr vectors concept introduced (MK).

Better handling of background colours (MK).

Basic procs OK even if a LARGE number of parameters are passed to them (MK).

Bugfixes for some EE traps, keep A1 as per documentation (WL).

Qx0 caches on at startup (FD).

8 bit Aurora GD2 screen driver, also introduced in QPC (MK).

Screen aspect ratio for graphics functions now a CON variable (MK).

Hotkey system configurable again like stand-alone version (MK).

SMSQ/E Version 3.01

More system sprites (MK).

New window move routines & Config block (WL + MK).

Fixed bug for stippled borders in WMAN (WL).

More con vectors (WL).

Bugfix for object drawing & wman rptr routines (WL & MK).

Fixed wallpaper on display change, broken in 2d99 (MK).

Bugfix for move routine in mode 4 (WL).

SMSQ/E Version 3.02

Extended revamp for mode 16 (Gold Card/Aurora). (MK)

Bugfix for rchp: Doesn't break free space list if block was already free (MK).

SMSQ/E Version 3.03

WM_BLOCK procedure fixed (GG & MK).

Some bugfixes for SER PAR PRT ports (MK)
PRT_USE\$ used wrong offset - fixed (WL).

Cursor move if one-line wdw fixed (delete still a problem) and added.....configurable key to enter line into stuffer buffer (WL).

PARNAM\$ and PARSTR\$ fixed (WL).

EXTRAS lists all keywords, not only those it thinks are not in ROM (MK).

new Cachemode module for the Qx0 (FD, based on code donated by Mark Swift).

Extended colour border call with 0 border bug fixed (MK).

(Super) Goldcard initialisation problem fixed (MK).

Left & right shift keys are handled separately (MK).

Mode screen aspect ratio is variable (MK).

SMSQ/E Version 3.04

Fixed pointer save on new move operation (WL).

SMSQ/E Version 3.05

Corrected QL mode 8 sprite cache handling (JG).

Rptr distinguishes better between loose items & appsub menu items (WL).

Spp open clears CD inactive count (MK).

Better 3d border handling (MK).

MENU Version 8 - still not there

Jochen Merz

Some time has passed since I released version 7 of MENU_rxt. Some work has been done since then, but MENU has not reached a stage where it deserved a version number jump to V8.

However, with the release of QSpread 2001 (yes, it is that long ago!) a new MENU was required for QSpread to work. So I made a jump here to 7 1/2, i.e. V7.50.

The new features have never been documented, and QMENU was not actively advertised for years.

One of the missing components is a colour select menu. I have started to implement it some years ago, but health and time issues made it impossible to finish it, and a lot of work still needs to be done.

So I thought it might be a good idea to document the changes in V7.50 and onwards, up to the current Version 7.66, so that you can benefit from the new features - in BASIC and Assembler, for example.

A major jump was also done in version 7.65 - this was the first version which supported the high-colour modes of SMSQ/E.

FILE_SELECT\$ (FSEL)

In the menu itself, FileInfo II support has been added. This means, you can select a file and then call the action defined by FileInfo II (by pressing F10 or selecting the FileInfo II button).

You can press F10 immediately if a default filename is given, otherwise you have to press ESC once after you selected a file to stop the cursor after the selected filename to flash (i.e. leave edit mode).

Some internal improvements and bug fixes happened as well, so that the full length of 41 character long filenames and 36 character long subdirectory names can be used everywhere.

If a space is given as the default filename, then the value of the current HOTKEY stuffer buffer is used instead (what you get when you press ALT SPACE while the cursor flashes), e.g.

```
PRINT FILE_SELECT$("Title"," ")
```

DIR_SELECT\$ (DSEL)

Again, changes to the menu visible for the user: The menu uses the maximum width of the outline of the primary window.

There is now room for up to 10 devices.

READ_STRING\$ (RSTR)

Many call options have been added, so that the program asks for specific contents to be entered:

In assembler: the fourth parameter is optional, unsigned long

```
dc.w    thp.opt+thp.ulng
        ; number of chars (LSW) or 0
        ; MSW contains options (bit set):
        ; 0: use ESTR
        ; 2: string must not be empty
        ; 4: integer number only
        ; 5: fractions and ints
        ; 7: password
        ; 14: ESC not allowed
```

The least significant word contains the number of characters or can be left 0.

The most significant word may contain set bits for the options.

In BASIC, the fourth parameter can be a long word. In order to set bits here, you use the $2^{\text{bit}} * 65536$ to select it. The length can be added.

Example:

```
PRINT READ_STRING$(,,,2^2*65536)
to make sure somethings needs to be entered or
PRINT READ_STRING$(,,,2^7*65536)
to read a password.
```

The values can be added, of course. If you want the entry field to be larger, say 70 characters, you use:

```
PRINT READ_STRING$(,,,2^7*65536+70)
```

Most options are self-explanatory - just try them. If the password bit is set, then the characters entered are immediately replaced by an asterisk. Please note that in password mode, editing is restricted to delete characters - no cursor movement is possible as you cannot really SEE what you are editing.

GET_DEFAULT\$ (INFO)

A parameter of -1 returns the version of MENU, e.g.

```
PRINT GET_DEFAULT$(-1)
```

The colourway inquiries always return 0 as they are obsolete with the new colour driver.

You will find some calls which I forgot to remove - they are incomplete and can crash. If you would like to give them a try, a few words:

Go into QPAC2 and select a few files, so that you get something into the HOTKEY Stuffer buffer (can be retrieved with ALT SPACE or ALT SHIFT SPACE).

Then try

```
PRINT SYS_SELECT$("Title",0)
```

Beware, it can crash if nothing is in the HOTKEY buffer (as at the time of implementation there was no safe way to check the buffer queue for being empty)! If there is a way (now?), please let me know.

Some control bits are possible, e.g.

```
PRINT SYS_SELECT$("Title",0,4)
```

adds unique selection keystrokes in front of the stuffer entries - they are not contained in the return string, of course!

The other menu I mentioned before was a colour selection menu. It is less than half-way implemented, you can have a quick look at it:

```
COLOUR_PAL
```

```
PRINT COLOUR_SELECT(,0)
```

will give the QL colours with stipples

```
PRINT COLOUR_SELECT(,16)
```

will give the palette colours (no stipples).

That's about it yet, nothing but ESC will bring you out. It would be nice to complete the two menus. The SYS_SELECT\$ should be easily completed - some additional features can quickly be added, if I find a bit more time (yes, you've read this before). The definition was to allow other "system lists" to be given (i.e. list of Things, executable Things, open channels etc.) - and I was also thinking about allowing to convert a specified text file into a list where every line can be selected ... quite useful for some applications.

Colour select is a bit of a problem - much more work needs to be done, and the 24 bit mode needs to be dealt with.

Looking at the colour picker provided by Marcel and Wolfgang, I wonder if it is really necessary.

I cannot promise when things will move on, but I hope this article will help you to get most out of MENU. If you do not own QMENU, you can still obtain the manual for the V7 from J-M-S.

Contact me at smsq@j-m-s.com for details.

And - it is not very much used but it is, of course, possible to include MENU with a commercial program for a small fee if some or many of the menus of MENU are used from your program - again, please contact me at the email address given above.

Small ads

For Sale:

Brother M1009 printer, little used, still boxed with roll paper and tractor feeds to dispose of, plus a Sinclair QL all original in silver box. Also ICL OPD firmware modules (Xchange on eprom) and QL mags/books free to buyer.

Offers to Paul Stewart (PStewart@mail.com) or telephone 01689 823923 (UK)

Help!

Has anyone managed to get Text 87 to run on a Q60 under SMSQ/E? It runs on a Q60 under QDOS and under SMSQ/E on the Q40. Having spent what is, for me, a great deal on a Q60, I find I'm still using the QL for want of a Q60 word processor!

Any offers of help to David McCann, 24 The Grange, Grange Road, Chiswick, London, W4 4DE
Telephone 020 8994 8103 (UK)

... I think the brandnew text87patch described on the News page will help - Editor!

This is the first time that we had a help request - and we could even provide instant help!

Remember you can place short, free Small Ads here if you like, as long as it is related to QL, QDOS, SMSQ/E etc. Please send small ads as soon as possible - preferably via E-Mail to ensure they catch the latest issue (there are often good chances even after the deadline given on page 2).

TF Services

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A UK 4-way trailing socket designed to switch off computer peripherals automatically when the computer is switched off, or (in the case of an ATX computer) when it auto-powers down. *Compswitch* has one control socket, and three switched sockets. Can be used with lights/hifi/monitors—ie a QL monitor can be used as a switch control.

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Think of it - you could fully boot an expanded QL, including all drivers/SMSQ etc off RomDisq at hard disk speed with only a memory expansion needed.

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22 Feb 03

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Sounding Off

Dilwyn Jones

The QL's sound facilities are rather basic. A single voice beep command which at its simplest can have a duration and a pitch.

Even with something this simple we can create simple tunes and possibly write a short program to compose and play tunes with the right information. I'm not the most musical of people and certainly not an expert so this article may leave something to be desired in terms of music technique, I'm only writing this to help me create some tunes!

The QL's BEEP command uses some less than obvious parameter values - the QL manual does not really explain much, the 'QL SuperBASIC Definitive Handbook' by Jan Jones is a bit more informative, fortunately.

BEEP's basic syntax is:

BEEP duration,pitch

Duration is expressed as the length of the beep in units of 72 microseconds, the range of values allowed being 0 to 32767. Thus a one second beep has a duration of about 13889 beep units. duration 0 is not particularly useful - it just means hold the note forever (until a blank BEEP command without parameters is issued to cancel it), although in some cases that can come in useful if we want a beep to continue until something occurs to stop it.

This is important. The QL has no facility to queue a note, so to play a set of notes of specific duration you have to either pause after starting a note then after the pause has elapsed discontinue the note with a blank BEEP command like this:

BEEP duration,pitch

PAUSE length

BEEP

or define the beep command and loop around until it has finished:

BEEP duration,pitch

REPEAT loop:IF NOT BEEPING THEN EXIT loop

Pitch is harder to use. It can take values from 0 to 255 but there is no direct link to musical notes. The closest I have found is the following table from an old Sinclair newsletter. This relates the pitch value to musical notation as in the following table:

a	41
a#	38
b	36
c	33 (middle C)
c#	31
d	28
d#	26
e	24
f	22
f#	20
g	19
g#	17
a	15
a#	14
b	12
c	11
c#	10
d	9
d#	8
e	7
f	6
f#	5
g	4
g#	3

In terms of a treble clef staff, this equates as follows (see also Fig. 1 for a more graphical diagram):

FIGURE 1 - The notes on a treble clef

In terms of length of notes, if you go by the breve, minim, crotchet, quaver etc names, these are based on half or twice as long as each other, these are the relative duration and names of musical units.

breve	= 8 * crotchet
semibreve	= 4 * crotchet
minim	= 2 * crotchet
crotchet	= 1 *
quaver	= 0.5 * crotchet (1/2)
semi-quaver	= 0.25 * crotchet (1/4)
demi-semi-quaver	= 0.125 * crotchet (1/8)
hemi-demi-semi-quaver	= 0.0625 * crotchet (1/16)

How fast the notes should be played is largely up to you. Tempo and so on can be specified by using PAUSE n to wait a certain number of units of time, n/50 of a second. You will have to approximate to the number of beats per minute as required by the tune or music in question.

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Q-Celt are also now authorised resellers of the **Paul Merdinian Crossword solving program suite** – these include Crossword solving, Anagram Solving, and word finding programs. Available as a suite on several HD disks, for only **£15 plus £2 P&P**. Phone or email for full details!!

The following program is a simple utility to calculate the relative frequencies of musical notes used by our western music notation system.

```

100 REMark — program to calculate —
110 REMark - frequencies of musical -
120 REMark — notes over 8 octaves —
130 :
140 CLEAR:MODE 4:INITIALISE
150 INTRO:CSIZE 3,0:INK 4
160 PRINT\Frequencies for 8 octaves(Hz)'
170 CSIZE 1,0:INK 7
180 PRINT\FILL$('-',58)
190 IF printer THEN PRINT#3,FILL$('-',58)
200 PRINT'octave 1      2      3      4      5      6      7      8':REMark 1,6,6,6,6,6,6,6 spaces
210 IF printer THEN PRINT#3,'octave 1      2      3      4      5      6      7      8'
220 PRINT FILL$('-',58)
230 IF printer THEN PRINT#3,FILL$('-',58)
240 FOR number=0 TO 11
250   base=27.5:READ note$:PRINT note$;
260   IF printer THEN PRINT#3,note$;
270   FOR octave=1 TO 8
280     frequency=INT(((base*2^(number/12))*10)+.5)/10
290     form$=frequency
300     IF '.' INSTR form$=0 THEN form$=form$&'.0'
310     PRINT'      '(1 TO 7-LEN(form$));form$;:REMark 3 spaces
320     IF printer THEN PRINT#3,'      '(1 TO 7-LEN(form$));form$;
330     base=2*base
340   END FOR octave
350 PRINT
360 IF printer THEN PRINT#3
370 END FOR number
380 PRINT FILL$('-',58)
390 IF printer THEN PRINT#3,FILL$('-',58)
400 DATA 'A ','A#','B ','C ','C#','D ','D#','E ','F ','F#','G ','G#'
410 WINDOW 448,200,32,16
420 IF printer THEN CLOSE#3
430 STOP
440 :
450 :
460 DEFine PROCedure INTRO
470 PRINT' This program calculates frequencies'
480 PRINT' (in Hertz) of notes in the musical'
490 PRINT' scale, where A is 440Hz.'
500 PRINT\\ ' The "12th root of 2" rule is used'
510 PRINT' for the calculations. A note is'
520 PRINT' 2^(1/12) higher in frequency than'
530 PRINT' the preceding note. This is an'
540 PRINT' increment of approximately 6% per'
550 PRINT' semitone. Middle C is about 261.6Hz'
560 PRINT\\ \\ TO 8;'Copy on paper (y/n)?'
570 IF INKEY$(-1)=='y' THEN printer=1:ELSE printer=0
580 CLS:IF printer THEN OPEN#3,ser1:REMark change to PAR if required
590 END DEFine INTRO
600 :
610 :
620 DEFine PROCedure INITIALISE
630 WINDOW 512,256,0,0:PAPER 0:CLS
640 WINDOW 464,200,24,16
650 WINDOW#0,448,40,32,216:PAPER#0,0
660 INK#0,2:CSIZE#0,3,1:AT#0,0,3
670 PRINT#0,'NOTE PITCH CALCULATOR';:INK#0,7
680 CSIZE#0,0,0:AT#0,0,0
690 INK 7:CSIZE 2,0:CLS
700 END DEFine INITIALISE

```

This little program is an utility that tells you the pitch of a given musical note over a range of 8 octaves. The "12th root of 2" rule is used for calculation. It uses a frequency for A above middle C of 440Hz.

"Flats" are actually shown as "sharps" for convenience of programming. You may get a printout on the screen or on paper.

Brief instructions are shown on the screen followed by a request:

Copy on paper (y/n)?
press y for yes or n for no.

Anything other than y will be taken to mean no. The program sends printed output to the SER1 port. If you use a parallel printer port, change the reference to ser1 in line 580 to PAR or whatever device name that your interface requires.

```
This program calculates frequencies
(in Hertz) of notes in the musical
scale, where A is 440Hz.
```

```
The "12th root of 2" rule is used
for the calculations. A note is
2^(1/12) higher in frequency than
the preceding note. This is an
increment of approximately 6% per
semitone. Middle C is about 261.6Hz
```

Copy on paper (y/n)?

NOTE PITCH CALCULATOR

Figure 2 - The program's output table

Frequencies for 8 octaves (Hz)

octave	1	2	3	4	5	6	7	8
A	27.5	55.0	110.0	220.0	440.0	880.0	1760.0	3520.0
A#	29.1	58.3	116.5	233.1	466.2	932.3	1864.7	3729.3
B	30.9	61.7	123.5	246.9	493.9	987.8	1975.5	3951.1
C	32.7	65.4	130.8	261.6	523.3	1046.5	2093.0	4186.0
C#	34.6	69.3	138.6	277.2	554.4	1108.7	2217.5	4434.9
D	36.7	73.4	146.8	293.7	587.3	1174.7	2349.3	4698.6
D#	38.9	77.8	155.6	311.1	622.3	1244.5	2489.0	4978.0
E	41.2	82.4	164.8	329.6	659.3	1318.5	2637.0	5274.0
E#	43.7	87.3	174.6	349.2	698.5	1396.9	2793.8	5587.7
F	46.2	92.5	185.0	370.0	740.0	1480.0	2960.0	5919.9
F#	49.0	98.0	196.0	392.0	784.0	1568.0	3136.0	6271.9
G	51.9	103.8	207.7	415.3	830.6	1661.2	3322.4	6644.9

NOTE PITCH CALCULATOR

Figure 3 - The program running

Gee Graphics! (on the QL ?) - part 37

H. L. Schaaf

Just a short listing this time to be merged in with the `Lame_bas` from GG#36.

A parametric polar formula can be used to get the same curves, and you can compare the two methods. The cartesian x-y plot is done in white ink, and then followed by the polar version in red. What parametric angle step size ('rinc') gives a smooth curve? The one given is based on the angle needed to subtend 2 pixels across the full width of the screen. Try other values.

I've wondered about the area enclosed by Lame curves, and also what the perimeter of Lame curves might be. The search has led me into gamma functions, and Romberg and Gaussian quadratures. Perhaps a little of those for next time?

Listing for GG#37 to be merged with listing from GG#36

```
121 REMark Polar_Lame_SGN_bas
122 REMark Polar_Lame and SGN added
123 REMark for GG#37
124 REMark H L Schaaf Feb 3, 2004
165 INK 2 : Polar_Lame
2690 :
2700 DEFine PROCedure Polar_Lame
2710 REMark given angle, place x,y
2720 POINT Lame_a,0
2730 rinc = ATAN(2/(Wp_wi%-4*Wp_bo%))
2740 FOR theta = rinc TO 2*PI STEP rinc
2750 para_x = Lame_a*SGN(COS(theta))*(ABS(COS(theta)))
      ^2/Lame_e1)
2760 para_y = Lame_b*SGN(SIN(theta))*(ABS(SIN(theta)))
      ^2/Lame_e2)
2770 LINE TO para_x,para_y
2780 END FOR theta
2790 END DEFine Polar_Lame
2800 :
2810 DEFine FuNction SGN(n)
2820 RETurn (n>0)-(n<0)
2830 END DEFine
2840 :
2850 REMark end of listing for GG#37
```

QL2004 Update

Geoff Wicks

Sitting on my desk is a dossier of emails almost 2cm thick. By the middle of October I expect it to be 2 or 3 times thicker. In just under a fortnight's time, history by the time you are reading this, I shall be studying this dossier on a 10 hour train journey to the Netherlands in preparation for a meeting with Jochen and the committee of Sin-QL-Air. Then in just over 6 months time, on 16th October 2004 to be precise, we shall be holding QL2004.

In some ways this is a frustrating period. Organising and co-ordinating a major event from a distance is a risky venture. It is only after we have had our meeting and ironed out a few practical problems and uncertainties that I shall feel we are truly on the way. Since I last wrote in QL Today about QL2004 I have been sounding out QL opinion on four questions:

- 1: What QL developments would you like to see over the next 2 - 3 years?
- 2: Are there any special guests you would like to see at QL2004?
- 3: Who would you like to see as panel members at the QL forum? Do you have any topics you would like discussed?
- 4: Do you have any suggestions for suitable speakers or other activities during the day?

Most people reading this will have seen these questions already, but, if you have not, there is still time to give your opinion. Even if you are unable to attend QL2004 your answers to questions 1 and 3 would still be welcome. (See the Just Words! advert for contact details.)

So far, the response to the questions has been disappointing in numbers, but there have been some interesting answers.

The development most people want to see is QL access to the internet. This was the hot topic in the closing session of QL2000, and many people are wondering what has happened since. We know that on 2nd March 2003 Jon Dent sent an email from a QL to the QL-users email group, but most of us are in the dark about how near we are to a QL emailing system which could easily be used by any QL-er.

The good news is that QL2004 should be picking up where QL2000 left off. Jon Dent wants to run an internet connection workshop and we are well on the way to organising this. There are one or two technical details to be cleared up, but Sin-QL-Air are working hard on these.

QL2000 produced a flurry of HTML related activity, and it is now possible to write HTML documents in several different ways on your QL, but these activities were not sustained. At the time there was discussion of a QL web browser type program, but this was soon forgotten. It would be an interesting challenge for someone to write a QL HTML reader able to display both text and both PC and QL graphics, and then to demonstrate it at Eindhoven.

Other suggestions for activities are a colour workshop for people needing help in using the new colours in their own programs. Again an activity we need to stimulate. We are expecting quite a few QL experts at the show and one person suggested a general programming workshop to which you could bring your own programs and problems. I am not sure how easy the latter would be to organise but any ideas (or even more important volunteers) would be welcome.

At the moment I am not sure how well the Q60 will be represented at QL2004, but a workshop for Q60/Q40 users is another possibility. I do not own either of these systems, and I have no idea what the content of such a workshop would be. However, if you find this an interesting idea please get in touch.

We hope to end the day with a QL Forum. This could be a worthwhile event as many of the QL's "experts" are interested in attending QL2004. If we can get some of our best brains and thinkers together for a few hours under one roof, we could make plans for the QL's future.

And after QL2004? Well we hope that Quanta will be able to take over in 2005 where we leave off in 2004. And 2006? Am I right in thinking a certain QL publication will be celebrating its 10th birthday that year? Life could become one continuous QL party!

Well, the certain QL publication's life depends on the reader's support - please renew your subscription if you have not already! - Jochen

Sprite Viewer

A review by Dilwyn Jones

Sprite Viewer - a review by Dilwyn Jones

Per Witte has recently released a sprite viewers package called simply Msprv. The package consists of two main applications, called Msprv (the multiple sprite viewer) and Sprv (the single sprite viewer).

Sprv is a command line driven sprite viewer. A simple BASIC command like

```
EXEC sprv_obj;'filename_spr'
```

will display a sprite and optionally its details. Interestingly, not just the old mode 4 and mode 8 (after a fashion, by the author's own admission) sprites may be displayed but also the newer GD2 (colour drivers) sprites as well.

For the older QL mode 4 sprites, the program will display the mode, time, adaptation rule value, pixel size and origin details of the sprite. Useful if you are using sprites from a collection you did not design yourself and you need to know their details to design suitable windows and loose items or information objects.

The fact that Sprv is a command line driven program means it can be used to view a sprite from an application like Fileinfo 2 if you use that on your system. Configure Fileinfo 2 to use Sprv_obj as its file viewer, then when you EXECUTE the sprite from a program like QPAC2 files menu or QTrans Sprv can be fired up as a sprite viewer.

Msprv is a multiple sprite viewer. Using its LOAD command, you tell it where the sprites are kept and it reads all the sprites and displays them in a menu grid layout. It copes with both older sprites as well as the newer GD2 ones - most older sprites tend to be no more than 64 pixels wide or high (Easyptr's Easysprite sprite design grid is 64x48 maximum for example), though the system allows for larger sprites, especially under GD2, and Msprv copes with large sprites, at least the ones I had available to throw at it.

There are some nice touches in Msprv - see the screen dumps for how the display looks. On a cosmetic level, you can cycle through some colour schemes - if you are familiar with the main pointer environment colour schemes as used in QPAC2 menus or Q-Menu menus for example, you'll be familiar with the green/white, red/black, red/white and green/black colour schemes. And, of course, the new high colour schemes can also be used.

DO (right mouse button click) on a sprite in the Msprv display to start up the Sprv program to display the sprite. Sprv is useful in that if the sprite is a complex or animated sprite (i.e. more than one frame) a click on the sprite will display the next frame and so on. You can start more than one instance of Sprv - click on the Sprv command and this will pick all instances of the single sprite viewer (see figure 2). A DO on the Sprv command will kill them all off again.

A Hit on a sprite will display the details of that sprite at the top of the screen without calling up the single sprite viewer - it displays the name, size, origin and mode number of the sprite concerned. Sprites that cannot be viewed in the current display mode will be substituted with a place-holder that indicates the mode of the undisplayable sprite.

Usefully, the program has a nifty resize icon - Hit on the icon it can take pretty much as little or as much of the screen display as you wish. A QPAC2 Files menu style resize icon appears, move that to the desired point and the menu is redrawn to that size, better than simply cycling through a fixed choice of menu sizes, for example. If need be, the program will resize itself for large sprites. A Do will force the program to adjust the window to fit the current sprite layout.

Even Quit has more than one option, depending on whether you Hit or Do on the [X] icon to exit from the program. A Hit will just stop the program, a Do will also remove any instances of Sprv.

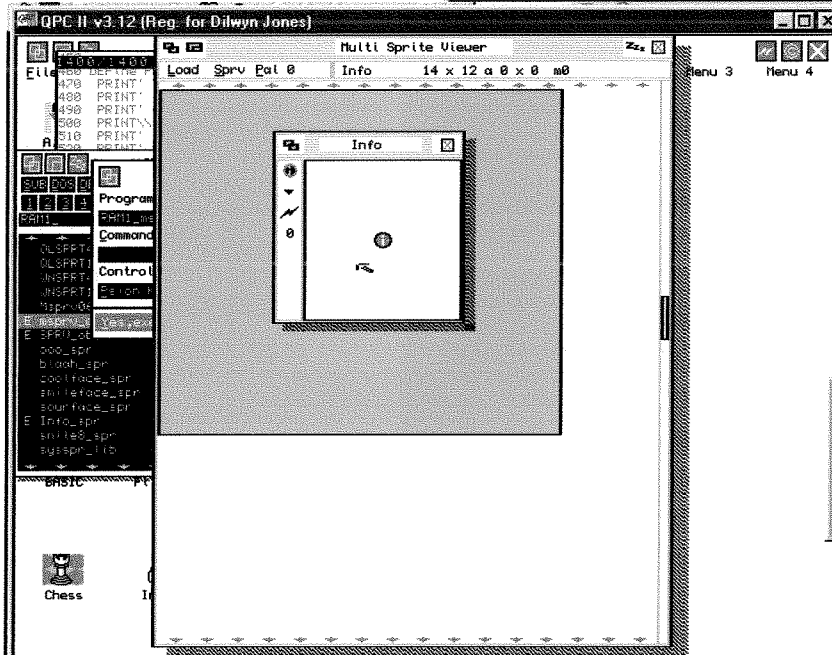
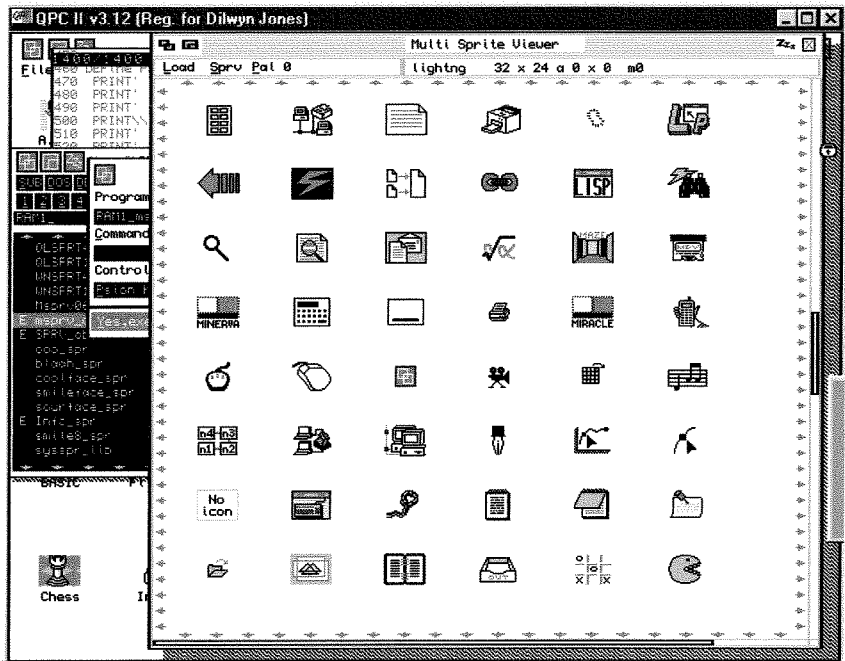
The programs need to be configured depending on where you store them on the hard disk. Firstly, you need to configure (using Config or Menu-Config programs) msprv_obj to tell it where the msprv_cfg file is stored. Msprv_cfg then has to be configured in an editor (it's a plain text file) to tell it such details as default sprite directory (where sprites are stored), the location of the single sprite viewer program, the job name of the sprite viewer and the default colour palette used when the program starts. The configuration process seems a bit daunting at first, but once done it need not be done again unless you wish to change something. The program comes configured to run from RAM1_ which is great for trying out the program - if you like it, put it on disk and reconfigure accordingly. Some sprites are supplied to get you started. You also get the source basic and assembler files if you wish to tinker with the program yourself.

This is a well thought out package offering a good number of options and performs very well

already, given that the author gave me the impression it wasn't quite complete yet. It's nice to see applications appear which take advantage of the GD2 colour drivers and new Window Manager facilities. About the only two extra facilities I could have wished for are:

1. Screen dump facilities to make a hard copy of the displayed sprites. A simple call to the SDUMP screen dumps built into some disk interfaces would have sufficed.

2. The facility to make a sprite into a system sprite (i.e. the program's pointer), so you can



see what a sprite would look like as a program pointer if required. Also, this is probably the only way to display animated sprites as well.

The program is freeware and can be obtained from PD libraries or downloaded from Tim Swenson's or my website. Tim's web site also has some free packages of pre-designed sprites which you can download for use in your own programs as well.

<http://www.geocities.com/svenqhj/myfree.html>
(Tim Swenson)

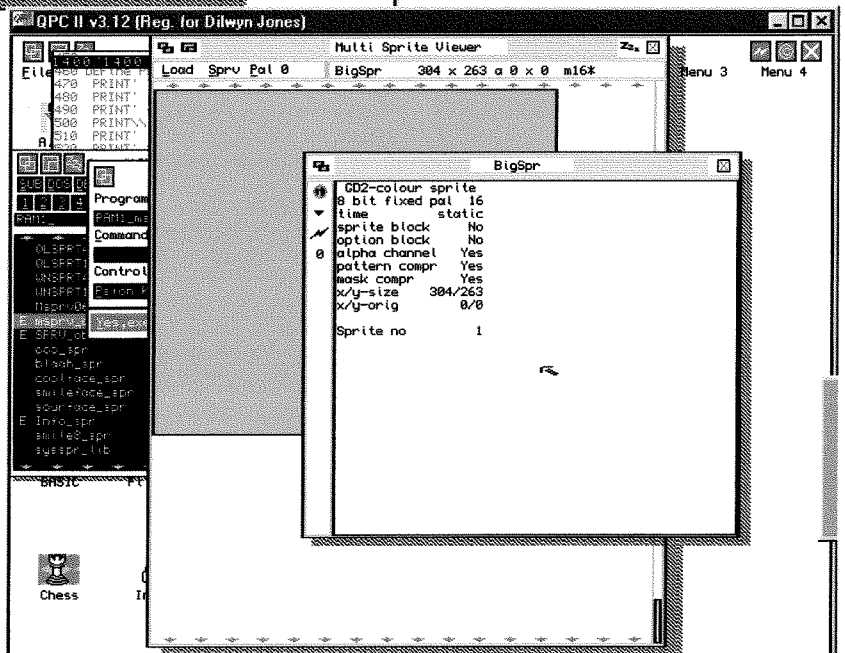
<http://homepages.tesco.net/dilwyn.jones/index.html>
(my website)

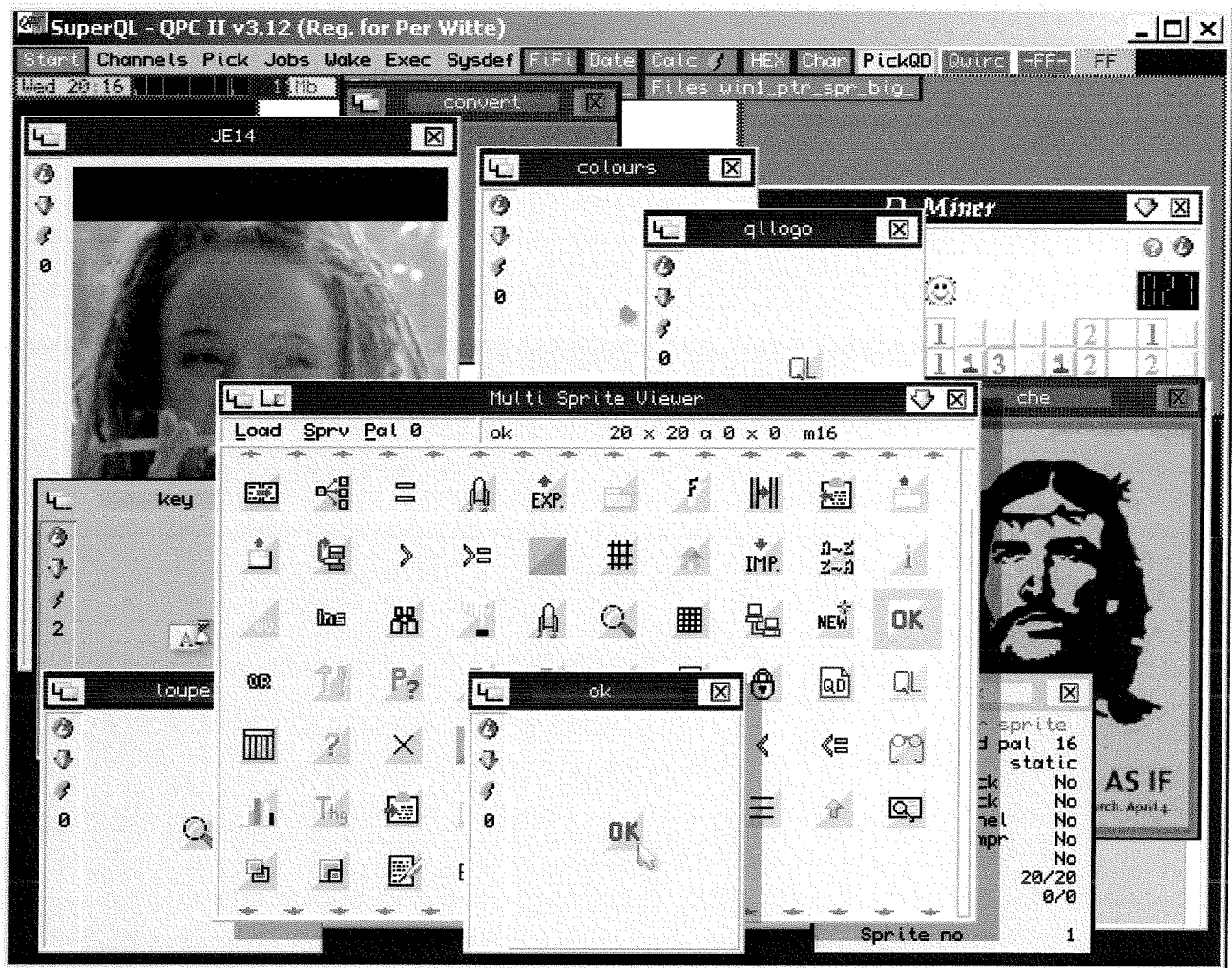
Figure 1 (top) - Msprv displaying some Launchpad sprites

Figure 2 (centre) - Msprv using Sprv to display a sprite

Figure 3 (bottom) - Sprv's information window for the sprite displayed - A GD2 sprite with the extra information available.

Figure 4 (next page) - Msprv running in GD2 high colour ... very impressive!





JUST WORDS!

Just words?

Kangaroo ate blue dinosaur

Devil fines voodoo mystics

Cockatoo knows brazen squaw

Curate bores afterlife heretics

Medics revive unshaven scarecrow

Nero survives sioux valentine

Matron hates overweight matador

Widow dates celibate chimpanzee

Corgi pardons demon flea

Astronaut drives atomic taxi

The answer is at Manchester and Orlando

Geoff Wicks, 56 Peveril Crescent, West Hallam, Derbyshire DE7 6ND, U.K.

Tel: +44 (0)115 - 930 3713

email: gwicks@beeb.net

Web: <http://members.lycos.co.uk/geoffwicks/justwords.htm>



**'Bored with the BAFTAS ?
Grumbling about the Grammy's?
Brassed off with the Brits?
Over-tired with the Oscars?**

**Well it is time to celebrate the QL's 20th
Birthday with a 'Golden Clive'**

**At QL 2004 in Eindhoven we plan to award a Gold,
Silver, and Bronze 'Clive' to the three people who have
done the most for the QDOS/SMSQ community and you
can all be the judges.**

**Send us your nominations to QLToday@J-M-S.com and
we will announce the results at the show. The only
stipulation is that these people have to be still active in
the QL scene.**

It is time to honour your QL Heroes.

**Come along and enjoy the only QL
awards ceremony'**

E-Mail Problems

Jochen Merz

More or less everybody is suffering from masses of junk and virus mails. At least I am - I get hundreds, or, to be precise, I would get thousands a day without spam filter. As it seemed some months ago that I programmed the spam filter to be quite strict and some mails which were not junk did not get delivered, I deleted all the rules and started from scratch. First day, an enormous amount of junk arrived, so I had to add some basic rules.

However, all mails which are classified as junk are returned with an explanation how to get the mails through.

Exception: mails containing viruses with .com, .pif, .lnk attachments sent with faked addresses - they are just deleted.

You can ALWAYS get mails with every contents through to me (even mails containing Viagra and Xanax, although I would not know why) by adding

EMAIL-OK: in front of the subject - it will skip any filtering rules.

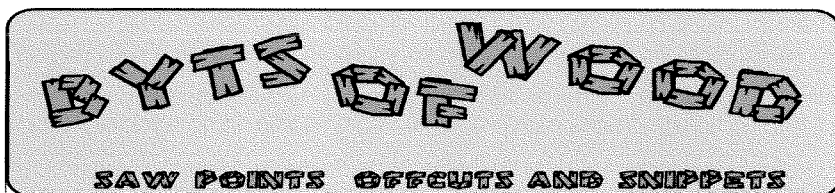
However, it seems that some mails still do not arrive at j-m-s.com - and some tests have shown that there is something else filtering mails out of my control. It is not entirely clear what is deleting those mails: either some providers use send-blacklists, or something else (Big Brother) is deleting mails. It is not always reproduceable. But it is clear, it is not my spam-filter.

Those of you who have had email contact with me know that I reply quite quickly, usually within 24 to 48 hours at the very most.

And even if I don't have much time, I reply explaining that a proper reply may take some days.

Therefore, if you write to me and don't get a reply, then either your email has not reached me (try again, maybe with the modified subject) or my reply to you bounced (due to faked mails some IP ranges are sometimes blacklisted). Therefore, please add an alternative email address to reply to with your second attempt to send the mail.

Sorry, but these problems are beyond my control.



One subject that will not roll over is this that of printing from QL hardware or emulations. I know I have discussed this on many occasions in this column and it has appeared in various guises in most QL publications. In fact there was always a running joke about the number of contributions to Quanta about writing a printer driver for Quill.

However, it popped up again on the user group list on the internet so I may as well run it all by you once again. We were presented with several suggestions but there is a general lack of understanding of the real problem here and a feeling, expressed by some of the contributors, that anything printed from the QL would either be the odd letter or a program listing. This implies that the QL

is not of any use for anything else and that is, frankly, not the case. If it was we would all have given up long ago. I can see that QL users are not going to be looking to print high resolution, photographic quality, graphics files but that is more to do with a lack of programs to do that than a lack of will. In truth this is the only reason that things like this are not happening on the QL. If we had the programs to do it we would be doing it.

The discussion ranged over the usual topics of how to get drivers for modern printers, which ones would work, and what to do about the lack of hardware interfaces. Amongst all of this there were a couple of things which made me interested enough to write this.

Soft, Where ?

One of the suggestions put forward was that we should produce the documents that had to be printed and then transfer them, using Geoff Wick's excellent QL to PC program to something that can be printed on a modern PC using either MS Office or one of the Linux Office packages. This is all very well but if you have either of these at your disposal why bother to use a QL word processor to produce the documents at all?

Since most of this came under the banner of an offer of £1000 to anyone who could substantially advance the QL scene (see Honourable Mentions In despatches) someone immediately popped up and suggested we give the money to anyone who could port Star Office to the QL.

Lau Reeves made one of his brief appearances and suggested that this would be a trivial thing but either he meant to

say that it would 'not' be a trivial thing or he is hard at work doing it. It would be an interesting development if it could be done and it would great help in placing the QL more firmly in the modern world. It would, of course, probably have to be run under the colour drivers unless it was re-written for monochrome.

This would only solve the problem of having a 'proper' word processing package for the QL and would do nothing for the problem at hand. i.e printed output. Nonetheless having access to this on a QL emulation would be a good step in the right direction. Our largest and most debilitating problem is a lack of software writers who are willing to take on big projects like this and our software situation is, therefore, not developing.

I will come back to software a little later.

Hard Where?

On the hardware front it was suggested that something could be done to produce a box that would take serial output from the QL and turn it into USB output for a printer. I have no idea how possible this would be but it is something worth investigation. USB is, at its most basic level, a serial device although, as Nasta once told me, a lot more complex. The hardware for the device is available on a chip so the physical production of such a device should be possible. When I look at most PCI USB cards for the PC I can see there are few chips involved so it should be possible to do this. In fact, if you use superHermes you could possibly even have USB 2 and bi-directionality.

At this point I can hear all the hardware developers saying 'but what about the drivers?'

and, of course, this is the major part of the story. Writing a driver for such a device would be a hard thing to do. Many of the people who wrote the drivers for such things as the SuperGoldCard are no longer with us and I would be interested to find out if anyone thinks this would be a feasible thing to approach. There is one thing I should add to this before passing on. If there is a chip or collection of chips which will take serial I/O and convert it to USB I/O it is possible to write the code that will drive it. The major question is who would be willing to take it on.

What if....?

Let us assume for a while that we have the box and the driver that enables it to be connected to the QL. What then could we do with it?

Many people would say that this is the crux of the problem because most modern devices need complex interfaces to get them to work. In many ways this is a complete red herring. It takes me back to the argument I had with the help desk at Epson. The man on the other end of the telephone at the technical support side said 'This printer need a bi-directional cable.' I said 'No, the printer does not need it - your software needs it'. This is really the way things are. Most devices connected to computers today have large complex interfaces because they CAN have them not because they have to have them. The printer is a case in point and a very relevant one to this discussion. All the bi-directional cable does is to tell the software that there is x amount of ink in the cartridge and the printer is switched on and connected, nothing else. As a matter of fact it does not even measure the amount of

ink in the cartridge - it just makes a guess from the number of times you have printed from it and the number of times you have cleaned the heads. The software then draws a pretty picture of the printer on the screen with a piece of paper coming out of it and a chart of how much ink it thinks is in the tanks. As I said to the Epson man 'I do not need a picture of the printer, I know what it looks like - it is sitting beside the computer!'. The printer itself worked perfectly well with the basic drivers and mono directional cable on my QL.

Having said this, no printer manufacturer is going to give you any more information on their printers than they have to. Most printers these days come with a small poster showing how to plug it in, how to put the ink media into it and a picture of a CD tray on a computer so you know where to put the disk - or rest you drink.

How then do we extract the vital driver information? I will tackle this later.

What Use is USB?

Well it is not only printers which are attached to USB. As anyone who has a PC will tell you, you can plug a whole range of devices into the USB port. Cameras, Scanners, External Hard Drives, Mice, etc. One of the more interesting things is the external Hard Drive. I have two external Hard drives in boxes that will connect to my computers using the USB ports and they provide good backup and a mass storage transport. many of the cameras are seen by the computer as an IDE type device. (a little tip to PC users who have cameras. Do not install the software that come with the camera unless you have to. Plug the camera in first and see if it appears as a

device on the PC. Windoze XP is pretty good at this. Most camera software is rubbish and very slow so if you can do without it, do so. It is worth buying a card reader anyway, it uses no batteries and is much quicker).

Scanners are a problem because they need fairly complex software to do anything but many of the other devices could possibly be used on a QL if we had the port and someone was willing to undertake the writing of the driver. It is, of course the writing of the software more than the designing and building of the hardware that is the hardest part. This is easy for me to say because I do not do any of it but from my experience of talking and dealing with both hardware and software designers I would say that the sticking point with the hardware is unusually at the first stage when you are trying to get information on the chips that are available and what they can do and then at the last stage actually finding enough cash to get the design off the ground.

With software, and driver writing in particular, the whole process seems fraught with pitfalls. Writing drivers to use PC devices on a QL or Q40/60 is particularly difficult because the manufacturers of the components supply the information that the average PC user would want and usually only do that grudgingly, wanting to provide their own software solution. This is likely to be more to do with protecting their own interests than an outbreak of altruism.

So, a Radical Idea.

I firmly believe that sometimes people who know a lot about a subject are not the best people to think up new ways of doing

things inside their field. Sometime a bit of ignorance cuts through all of that – and I have ignorance in spades.

Let us think about the printer problem in this way. First we ignore the idea of printing graphics for a moment and concentrate on text. Older printers would print text because they had built in fonts which could be accessed by the program's driver. Modern printers cannot do this because they lack these fonts and they also lack the interface. Under Windows the program sends information to the print spooler which passes it to the printer driver which passes it to the printer. The interfaces between the program and the print spooler and the spooler and the printer driver must be documented because even the most basic freeware programs can produce printed output. This kind of job can be handled well with ProWesS which has a range or built in fonts. This leaves us with the printer driver itself.

If you strip away all of the higher functions of the printer driver such as the feedback mechanism which allows the printer manufacturer to tell you that you are out of ink (even when you are not) and the extended modes for photo printing and different paper types you have just a pipe which accepts one kind of data at one end and squirts out another at the other end. The information for this must be in the driver somewhere. There must be a way to extract this information somehow. A 'best case scenario' would be to allow you to run the actual Windows driver installation on your QL so you can extract the information. SMSQ/E will read DOS format disks although the programs will not run in the normal way on a QL. But, again, the format

of the Windows installer is also documented so maybe someone could write QL emulation of that installer which will extract the information needed to build a QL printer driver. Failing that maybe we could get a Windows application that could do the same job of extracting and building a driver but produce a QL version of the data. Armed with the above information we should be able to write a 'QL' driver. One which will look like a port to a QL program so you can print to it but use the extracted driver codes to output directly to the printer. Something similar was attempted a while ago for QPC2 and, apparently it was pretty far advanced but the author is no longer developing it and has not been answering any emails. It only worked under QPC2 and relied on the Windows driver to do the work.

My suggestion is a little more drastic and would certainly take an awful lot of programming and knowledge and it may, indeed, be completely impossible. One thing I would say is that we should not dismiss the concept out of hand. We have some clever and dedicated people in the QL community and maybe this may trigger the germ of an idea in one of them. OK that is enough about printers!.....

Except to say that, if you have a modern printer connected to a QL, Q40/60, or QL Emulator and get good results do let us know or better still write a review.

On the Menu For TurboPtr

Over the last couple of months I have had a few chats with George Gwilt about Turbo and EasyPtr. I do not do a lot of programming but, whenever I have

written anything and compiled it in the past I have always used QLiberator. This is mainly historic. When I took my first steps in writing BASIC for the QL (and I am not far off 'toddler' even now) Turbo was not regarded in high esteem by those who wrote PE. programs. In fact it was pretty much impossible to write them if you intended to compile them with Turbo. Add this to the fact that the Turbo Toolkit clashed with some of the programs I loaded at the time and you can see it was not very high on my hit list. Things began to change when Turbo was updated. David Gilham, George Gwilt and a couple of others made a great improvement to the way that the Toolkit functioned and many people claimed it was now a better way to compile pointer programs. Next came George Gwilt's TurboPtr and again it took a leap forward. Throughout all of this I was still using QLiberator when I compiled anything

George originally contacted me about getting some SMSQ/E updates but our conversations ranged onto the subject of compilers and he talked about EasyPtr's EasyMenu. This is something he had never tried out but some people had asked if they could migrate the EasyMenu menus so they can be used and compiled in TurboPtr. I decided to donate a copy to him and he tells me he has successfully done the conversions. Not only this but you can change the colours in EasyMenu to use all of the colours now available from the High Colour Drivers. I do not have a copy of this yet and I suspect it would be a steep learning curve for me to start using it but I am beginning to wish I had a little more time to play around with some programming.

Steeming

I ran into a little problem a while ago when a customer wanted a copy of SMSQ/E for the Atari. Now I have only ever sold two or three copies of this in all the time I have been selling SMSQ/E and I suspect the number of Atari QLers in the UK is pretty small so I never ever kept it in stock. The versions I had sold before were all before the current licence came into force and were supplied, on disk directly from JMS (who were the sole distributor). So I then had the problem of making an Atari format disk to put it on. I have very little knowledge of the Atari system and what disks it could accept but I tried first by sending it on two different disks, one a QL and one PC format. The customer could not read either of these. After a bit of help from the QL-Users list I discovered that the Atari could read PC disks but only DD ones. I did, however, get a couple of members of the list who still have Ataris to send me over formatted disks and I was able to successfully create a master disk from one of those. I did get the customer to send me a disk formatted on his machine but I could not read these at all (the 'no medium' message appeared). When I send him back the disks from the other Atari machines he could not read them so I suspect his drive was out of alignment.

This did lead to someone pointing me at the Atari emulator for Windoze and LINUX. This is called Steem and is available free, should you be interested, at

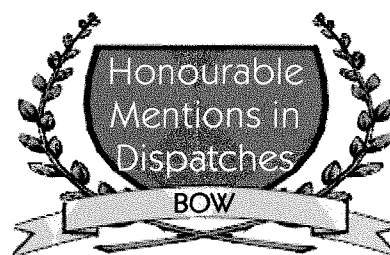
<http://steem.atari.org/>

It is an interesting emulator to run although I was a little lost, having never used an ATARI machine before. In the end it

was no use for the reason I wanted it because it could not format or even read ATARI disks but it does go to show that we are not alone out there in the world of 80's computers.

One thing I did try to do, as you would, was to run the ATARI SMSQ/E on it. This fires up and runs but does not display the screen correctly. I tried several settings in the config block and they all failed to give a coherent display. If it runs ATARI programs perfectly well I cannot really see why it should not run SMSQ/E but it just would not work. The older version of the program works better but even then the display is not correct.

This set me to wondering if any of the versions of the Atari SMSQ/E had been tested post 2.99 or if it was just a problem running it on an emulation of an ATARI O/S. I would be interested to know.



This month the Honourable Mention in Despatches goes to Geoff Wicks for Quanta motivation and being one of the driving forces behind QL 2004 in Eindhoven. Some time ago Geoff indicated that he was preparing to stop being a trader and gave every indication that he was planning to quit the QL scene altogether. Geoff has, for a long time now, been one of the most innovative and prolific programmers the QL has had and I was hoping that he would think up some new software to produce this year. I was, therefore, very disappoint-

ted when he announced that he was going to quit.

There was a degree of surprise, then, when he began campaigning for the cause of a large meeting to celebrate the 20th birthday of the QL. Not only this but he opened a dialogue with Quanta about the viability of holding two meetings, one in Holland on 16th October this year and one to held on a date, yet to be arranged, in the UK. This is good news and I hope that many of you will be able to attend both of the meetings. If the one in 2005 is held in May it could coincide with this magazine's own 10th birthday – now that would be something.

Not only did Geoff managed to do this but he also got Quanta to think seriously about the way its finances are used. Geoff has been trying to get Quanta to use the funds it is holding to finance development in both the Software and Hardware fields To this end there is the offer of a substantial sum of money to anyone who writes a new piece of QL software that I mentioned above.

My own thoughts in this area lean towards the financing of new Hardware in a similar way to that arranged with D&D systems to get the Q60 project off the ground.

The obvious person to get in touch with here is Zeljko Nastic, who has had several projects for the QL stalled through lack of development money. This would be an ideal way to use the money held in Quanta's accounts because it would benefit anyone who is using a standard QL or Aurora and be more in the spirit of Quanta.

Qubide with me

Following on from that I have been talking to Nasta about various projects recently here is some of the conversation. As you know he does have a replacement Aurora and Super Gold Card already designed. The new Qubide project would be a start.

Nasta has suggested an interim Qubide which will have new features:

'I have also been investigating a possibility to make a new batch of Qubides, but on a two layer board and without a through-connector. Some people that make boards owe me money and I could get this done, but I would rather do the real thing, i.e. Super/EtherIDE. Failing that, the stop-gap version I just described may be feasible.'

I replied: *'I think a new Qubide would be better than building more of the old one.'*

I agree completely, this is why even if the stop-gap one would be made instead of the Super/EtherIDE, it would be a new design. However, not with all the functions of the S/E-IDE as it has to be less challenging technologically – still it would have a Flash ROM and probably two IDE channels, as well as the necessary termination resistors to stop those 'fat is wrong...' problems, and would be about the size of the old Qubide.'

All in all it seems something may happen.

QL USA Show – Time to Meet with Friends Again!



Time is rapidly approaching for our annual USA version of the QL Show. This time we have

decided to do things a bit differently. This year we have picked a very tourist oriented location – Orlando, Florida; home of Disney World, Kennedy Space Center, Universal Escape (Studios) and tons of gators and other fun stuff.

The dates are April 24–25th at the Days Inn, 7200 International Drive, Orlando (please make sure you get the correct address – there seem to be tons of Days Inns around).

Scheduled exhibitors (at the time that this article is being written) are:

JMS – Jochen Merz [Germany]

Q-Branch – Roy Wood [UK]

QPC – Marcel Kilgus [Germany]

Quantum Leap Software and Hardware – Phoebus R. Dokos [USA]

TF Services – Tony Firschman [UK]

NASQLUG – Al Boehm [USA]

As you can see, this is once again a truly international event. We have people from Germany, the UK, and both sides of the USA flying in for this show.

Current activities planned (subject to change of course) are:

Friday: Open Dinner if you can get there on time (for everyone!)

A night at Disney's Pleasure Island if you all can make it (please note that Pleasure Island tends to be an adult oriented type venue in the evenings)

Saturday: Tours for the families
Exhibitors in the show room
Demos and presentations
Low cost group dinner

Sunday: Tours continue
More presentations, etc.
Dinner – tentative

The planned presentations and talks currently scheduled are:

QDT Workshop Children's Workshop – including High Colour/Sound enabled on Qx0
Demo: Q-Word with Sound on different platforms
Demo: Next generation High Colour Graphics oriented applications (tentative)
Demo: soQL-PPP
Demo: Qx0 Unix (if time allows)
Panel of Speakers (?)

Plus of course, you get to see all the latest software updates (the new color capabilities are very cool if you haven't yet experienced them), talk to the experts and get help and exchange ideas, plus just get together with your old friends and enjoy!

Many of us are getting there early or staying later to allow us to experience the area and make a full holiday of it. Be sure to let us know if you are planning the same and we will try to get everyone in contact who wants to.

If you need any help in planning or want to double check the current schedule and times, please check out the show website at:

<http://www.jdh-stech.com/ql-usashow.htm>.

We have all kinds of information, including travel assistance and links to all the local stuff.

If you haven't made your room plans yet, (full information is on the website) there might be some rooms available but they will be tight. If you want to come but are having difficulties please let us know.



And, not to be forgetting my own plug, I am planning to show the current state of QDT – I think that you will want to give it a test drive while you are there. I don't know if the first version will be ready for shipping yet (but won't say that it won't – working very hard at it). But it will be worth your taking a look! We have scheduled a workshop so that everyone who wishes can actually play with it a bit and ask questions and make requests/suggestions. If you have any questions, need assistance (rides, roommates, etc), want to let us know that you are coming (please give us a nod even if you are just thinking about it), or if I have missed anything here or on the website, please let myself or Al know. Show contact info is:

US: jhunkins@comcast.net

Jim Hunkins, 10 Arch St., Redwood City, CA 94062 USA - Tel. 408-685-5661

US: albertboehm@juno.com

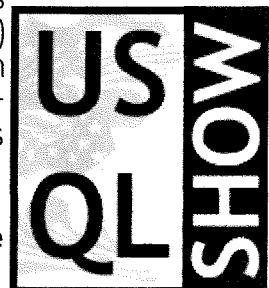
Albert Boehm, 2501 Ermine Drive, Huntsville, AL 35810 USA - Tel. 256-859-8051

Europe: smsq@j-m-s.com

Jochen Merz, QL Today
Im stillen Winkel 12, 47169 Duisburg Germany
Tel. +49 203 502011

A special thanks also goes to Thorsten Herbert (Italy) who is supplying us with the show graphics (all graphics with this article plus some more on the website).

Hope to see everyone very soon!



STOP PRESS

Update on AGM Workshop in Manchester, April 17th/18th

**Opening 1.00pm on Saturday.
Dinner 7.30 for 8.00pm
Sunday 10.00 am - AGM time TBA**

**A reminder to all Quanta members:
If you do not attend the AGM, who will hear your opinions?**

**We have arranged for speakers on both Saturday and Sunday.
Roy Wood will speak on Nasta's new Q-Bide and the Goldfire.
Geoff Wicks has a new programme under wraps and will reveal ›Why
the kangaroo ate a blue dinosaur‹
There will be a talk on Launchpad.**

**There is still time to come and there is still time to book a seat for the
dinner. As this is a social event to celebrate 21 years of Quanta we are
delighted when partners wish to attend. Our venue for the dinner is the
Pond Quay, as last time, but the banquet room has been doubled in size.**

**Cost for the dinner is £20.00 per head, with a £10 deposit to reach us
by 15th March. Cheques to be made out to NEMQLUG, please.**

We understand that the two hotels, given in our advert are fully booked.

Do not despair, Manchester is full of hotels, just look on the internet.

**There is a Tulip hotel by the Trafford centre.
There is a Holiday Inn express near the Lowrie Centre.
There is a Campinile in Salford.**

**COME TO THE AGM WORKSHOP
IN MANCHESTER AND BE HEARD!!**

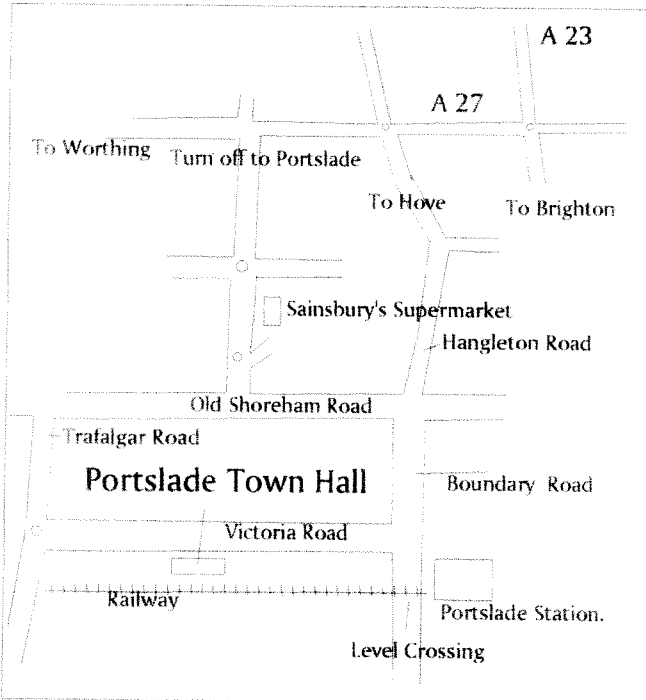
**Tip from QL Today: If you are not a Quanta member,
you are also welcome to visit the show! We suggest you
choose Saturday, as Roy Wood will only be at the Show
on Saturday, and Saturday has always been the busier
day on all two-day events in the past!**



The QL Show Agenda



Hove Workshop - (UK)



**Quanta AGM and Workshop
Portslade Town Hall
Hove, Sussex
Sun., May 23rd 2004**

This year's Hove Workshop is being held later than usual to avoid clashes with other recent QL shows. This will be our 10th show and the fourth to be held in this venue. We hope to publish a list of local hotels and guesthouses in the next issue.

See you all there.

QL Meeting - (NL) Eindhoven

**Saturday, 12th of June, 10:00 to 16:00
Pleincollege St. Joris, Roostenlaan 296**

**More details about the upcoming
USA Show in Orlando**

and the

Quanta AGM in Manchester

**can be found on the last few pages of this
issue! We hope to meet you at a show!**